6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 63 and 429

[OAR-2002-0048, FRL-]

RIN 2060-AG52

National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products; Effluent Limitations Guidelines and Standards for the Timber Products Point Source Category; List of Hazardous Air Pollutants, Lesser Quantity Designations, Source Category List

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rules.

SUMMARY: This action promulgates national emission standards for hazardous air pollutants (NESHAP) for the plywood and composite wood products (PCWP) source category under the Clean Air Act (CAA) and revisions to the effluent limitations, guidelines and standards for the timber products processing source category under the Clean Water Act (CWA).

The EPA has determined that the PCWP source category contains major sources of hazardous air pollutants (HAP), including, but not limited to, acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde. These HAP are associated with a variety of adverse health effects. These adverse health effects include chronic health disorders (e.g., damage to nasal membranes,

gastrointestinal irritation) and acute health disorders (e.g., irritation of eyes, throat, and mucous membranes, dizziness, headache, and nausea). Three of the six primary HAP emitted have been classified as probable or possible human carcinogens. This action will implement section 112(d) of the CAA by requiring all major sources subject to the final rule to meet HAP emission standards reflecting the application of the maximum achievable control technology (MACT). The final rule will reduce HAP emissions from the PCWP source category by approximately 5,900 to 9,900 megagrams per year (Mg/yr) (6,600 to 11,000 tons per year (tons/yr)). In addition, the final rule will reduce emissions of volatile organic compounds (VOC) by 13,000 to 25,000 Mg/yr (14,000 to 27,000 tons/yr).

The EPA is also amending the effluent limitations, guidelines and standards for the timber products processing point source category codified at 40 CFR part 429, subpart B (veneer subcategory), subpart C (plywood subcategory), subpart D (dry process hardboard subcategory), and subpart M (particleboard manufacturing). The amendments adjust the definition of process wastewater found at 40 CFR 429.11(c) to exclude

certain sources of wastewater generated by air pollution control devices expected to be installed to comply with the final PCWP NESHAP.

The EPA is also amending the list of categories that was developed pursuant to section 112(c)(1) of the CAA. The EPA is delisting a low-risk subcategory of the PCWP source category. This action is being taken in part to respond to comments submitted by the American Forest & Paper Association (AF&PA) and in part upon the Administrator's own motion, pursuant to section 112(c)(9) of the CAA. This action is based on EPA's evaluation of the available information concerning the potential hazards from exposure to HAP emitted by PCWP affected sources, and includes a detailed rationale for removing low-risk PCWP affected sources from the source category list.

EFFECTIVE DATE: The final NESHAP and the amendments to the effluent guidelines are effective [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER]. The incorporation by reference of certain publications listed in the final NESHAP is approved by the director of the Office of the Federal Register as of [INSERT DATE 60 DAYS AFTER DATE OF

PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER].

ADDRESSES: Docket numbers OAR-2003-0048 and A-98-44, containing supporting documentation used in development of this action, are available for public viewing at the EPA Docket Center (Air Docket), EPA West, Room B-108, 1301 Constitution Avenue, NW, Washington, DC 20460. These dockets also contain documentation supporting the amendments to 40 CFR part 429.

FOR FURTHER INFORMATION CONTACT: For further information concerning applicability and rule determinations, contact the appropriate State or local agency representative. If no State or local representative is available, contact the EPA Regional Office staff listed in 40 CFR 63.13. For information concerning the analyses performed in developing the final rule, contact Ms. Mary Tom Kissell, Waste and Chemical Processes Group, Emission Standards Division (C439-03), U.S. EPA, Research Triangle Park, North Carolina 27711, telephone number (919) 541-4516, electronic mail (e-mail) address “kissell.mary@epa.gov.” For information concerning test methods, sampling, and monitoring information, contact Mr. Gary McAlister, Source Measurement Analysis Group, Emission Monitoring and Analysis Division (D243-02), U.S. EPA, Research

Triangle Park, North Carolina 27711, telephone number (919) 541-1062, e-mail address “mcalister.gary@epa.gov.” For information concerning the economic impacts and benefit analysis, contact Mr. Larry Sorrels, Innovative Strategies and Economics Group, Air Quality Strategies and Standards Division (C339-01), U.S. EPA, Research Triangle Park, North Carolina 27711, telephone number (919) 541-5041, email address “sorrels.larry@epa.gov.” For information concerning the effluent guidelines, contact Mr. Donald Anderson, Engineering and Analysis Division (4303T), U.S. EPA, 1200 Pennsylvania Avenue, N.W., Washington, DC 20460, telephone number (202) 566-1021, “anderson.donaldf@epa.gov.”

SUPPLEMENTARY INFORMATION: Regulated Entities. Categories and entities potentially regulated by this action include:

Category	Rule	SIC code[a]	NAICS code[b]	Examples of regulated entities
Industry	NESHAP	2421	321999	Sawmills with lumber kilns
		2435	321211	Hardwood plywood and veneer plants
		2436	321212	Softwood plywood and veneer plants

		2493	321219	Reconstituted wood products (particleboard, medium density fiberboard, hardboard, fiberboard, and oriented strandboard plants)
		2439	321213	Structural Wood Members, Not Elsewhere Classified (engineered wood products plants)
	Effluent Guidelines	2436	321212	Softwood plywood and veneer plants
		2493	321219	Reconstituted wood products (particleboard, medium density fiberboard, hardboard, fiberboard, and oriented strandboard plants)

[a]Standard Industrial Classification.
[b]North American Industrial Classification System.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. To determine whether your facility is regulated by this action, you should examine the applicability criteria in §63.2231 of the final rule. If you have any questions regarding the applicability of this action to a particular entity, consult the person listed in the preceding FOR FURTHER INFORMATION CONTACT section.

Docket. The EPA has established an official public docket for this action including both Docket ID No. OAR-2003-0048 and Docket ID No. A-98-44. The official public docket consists of the documents specifically

referenced in this action, any public comments received, and other information related to this action. All items may not be listed under both docket numbers, so interested parties should inspect both docket numbers to ensure that they have received all materials relevant to this rule. Although a part of the official docket, the public docket does not include Confidential Business Information or other information whose disclosure is restricted by statute. The official public docket is available for public viewing at the EPA Docket Center (Air Docket), EPA West, Room B-102, 1301 Constitution Avenue, NW, Washington, DC. The EPA Docket Center Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Air Docket is (202) 566–1742.

Electronic Access. You may access this Federal Register document electronically through the EPA Internet under the Federal Register listings at http://www.epa.gov/fedrgstr/. You may also access a copy of this document through the Technology Transfer Network (TTN) at http://www.epa.gov/ttn/atw/plypart/plypart.html.

An electronic version of the public docket is available through EPA's electronic public docket and comment system, EPA Dockets. You may use EPA Dockets at http://www.epa.gov.edocket/ to view public comments, access the index listing of the contents of the official public docket, and access those documents in the public docket that are available electronically. Although not all docket materials may be available electronically, you may still access any of the publicly available docket materials through the docket facility identified above. Once in the system, select "search," then key in the appropriate docket identification number.

Judicial Review. Under section 307(b)(1) of the CAA, judicial review of the standards and limitations of the final rule is available only by filing a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit by [INSERT DATE 60 DAYS AFTER PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER]. Under section 307(d)(7)(B) of the CAA, only an objection to the final rule that was raised with reasonable specificity during the period for public comment can be raised during judicial review. Under section 509(b)(1) of the CWA, judicial review of today's effluent

limitations guidelines and standards is available in the United States Court of Appeals by filing a petition for review within 120 days from the date of promulgation of those guidelines and standards. In accordance with 40 CFR 23.2, the water portion of today's final rule shall be considered promulgated for the purposes of judicial review at 1:00 pm Eastern time on [INSERT DATE 14 DAYS AFTER PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER]. Moreover, under section 307(b)(2) of the CAA and section 509(b)(2) of the CWA, the requirements established by the final rule may not be challenged separately in any civil or criminal proceedings brought by EPA to enforce the requirements.

Outline. The information presented in this preamble is organized as follows:

I. Introduction

A. What is the source of authority for development of today's regulations?

Section 112(c) of the CAA requires us to list categories and subcategories of major sources and area sources of HAP and to establish NESHAP for the listed source categories and subcategories. The PCWP source category was originally listed as the plywood and particleboard source category on July 16, 1992 (57 FR 31576). The name of the source category was changed to plywood and composite wood products on November 18, 1999 (64 FR 63025), to more accurately reflect the types of manufacturing facilities covered by the source category. In addition, when we proposed the PCWP rule on January 9, 2003 (68 FR 1276), we broadened the scope of the source category to include lumber kilns located at stand-alone kiln-dried lumber manufacturing facilities or at any other type of facility. Major sources of HAP are those that have the potential to emit 9.1 Mg/yr (10 tons/yr) or more of any one HAP or 22.3 Mg/yr (25 tons/yr) or more of any combination of HAP.

Section 112(d) of the CAA directs us to adopt emission standards for categories and subcategories of HAP

sources. In cases where emission standards are not feasible, section 112(h) of the CAA allows us to develop design, equipment, work practice, and/or operational standards. The collection of compliance options, operating requirements, and work practice requirements in today's final rule make up the emission standards and work practice standards for the PCWP NESHAP.

We are promulgating the amendments to 40 CFR part 429 under the authority of sections 301, 304, 306, 307, 308, 402, and 501 of the CWA.

Section 112(c)(9) of the CAA allows us to delete categories and subcategories from the list of HAP sources to be subject to MACT standards under section 112(d) of the CAA, if certain substantive criteria are met. (The EPA construes this authority to apply to listed subcategories because doing so is logical in the context of the general regulatory scheme established by the statute, and is reasonable since section 112(c)(9)(B)(ii) expressly refers to subcategories.) To delete a category or subcategory the Administrator must make an initial demonstration that no source in the category or subcategory: (1) emits carcinogens in amounts that may result in a lifetime cancer risk exceeding one in a

million to the individual most exposed; (2) emits noncarcinogens in amounts that exceed a level which is adequate to provide an ample margin of safety to protect public health; and (3) emits any HAP or combination of HAP in amounts that will result in an adverse environmental effect, as defined by section 112(a)(7) of the CAA.

B. What criteria are used in the development of NESHAP?

Section 112(d)(1) of the CAA requires that we establish NESHAP for the control of HAP from both new and existing major sources. Section 112(d)(2) of the CAA requires the NESHAP to reflect the maximum degree of reduction in emissions of HAP that is achievable. This level of control is commonly referred to as the MACT.

The MACT floor is the minimum control level allowed for NESHAP and is defined under section 112(d)(3) of the CAA. In essence, the MACT floor ensures that the standard is set at a level that ensures that all major sources achieve a level of control at least as stringent as that already achieved by the better-controlled and lower-emitting sources in each source category or subcategory. For new sources, the MACT floor cannot be less stringent than the emission control that is achieved

in practice by the best-controlled similar source. The MACT standards for existing sources can be less stringent than standards for new sources, but they cannot be less stringent than the average emission limitation achieved by the best-performing 12 percent of existing sources in the category or subcategory (or the best-performing 5 sources for categories or subcategories with fewer than 30 sources).

In developing MACT under section 112(d)(2) of the CAA, we must also consider any control options that are more stringent than the floor. We may establish standards more stringent than the floor based on the consideration of cost of achieving the emissions reductions, any non-air quality health and environmental impacts, and energy requirements.

C. How was the final rule developed?

We proposed standards for PCWP on January 9, 2003 (68 FR 1276). The preamble for the proposed standards described the rationale for the proposed standards. Public comments were solicited at the time of proposal. The public comment period lasted from January 9, 2003, to March 10, 2003. Industry representatives, regulatory agencies, environmental groups, and the general public

were given the opportunity to comment on the proposed rule and to provide additional information during the public comment period. We also offered at proposal the opportunity for a public hearing concerning the proposed rule, but no hearing was requested. We met with stakeholders on several occasions.

We received a total of 57 public comment letters on the proposed rule during the comment period. Comments were submitted by industry trade associations, PCWP companies, State regulatory agencies, local government agencies, and environmental groups. Today's final rule reflects our consideration of all of the comments received during the comment period. Major public comments on the proposed rule, along with our responses to those comments, are summarized in this preamble.

D. What are the health effects of the pollutants emitted from the PCWP industry?

The final rule protects air quality and promotes the public health by reducing emissions of some of the HAP listed in section 112(b)(1) of the CAA. The organic HAP from PCWP process units that have been detected in one or more emission tests include acetaldehyde, acetophenone, acrolein, benzene, biphenyl, bromomethane, carbon

disulfide, carbon tetrachloride, chloroform, chloroethane, chloromethane, cresols, cumene, ethyl benzene, formaldehyde, hydroquinone methanol, methylene chloride, methylene diphenyl diisocyanate (MDI), methyl ethyl ketone (MEK), methyl isobutyl ketone (MIBK), n-hexane, phenol, propionaldehyde, styrene, toluene, xylenes, 1,1,1-trichloroethane, bis-(2-ethylhexyl phthalate), 4-methyl-2-pentanone, and di-n-butyl phthalate. Many of these HAP are rarely detected and occur infrequently. The predominant organic HAP emitted (i.e., those most likely to be emitted in detectable quantities and with high mass relative to other HAP) by PCWP facilities include acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde. Exposure to these compounds has been demonstrated to cause adverse health effects when present in concentrations higher than those typically found in ambient air. This section discusses the health effects associated with the predominant HAP emitted by the PCWP industry, as well as the health effects of the HAP contributing the most to cancer and noncancer risks associated with these PCWP facilities(organic HAP and some metal HAP) that must be included in any

demonstration of eligibility for the low-risk subcategory of PCWP sources.

We do not have the necessary data on each PCWP facility and the people living around each facility to determine the actual population exposures to the HAP emitted from these facilities and the potential health effects. Our screening assessment, conducted using health-protective assumptions, indicates that potential noncancer health impacts were negligible to target organ systems other than the central nervous and respiratory systems. Furthermore, only acrolein and formaldehyde showed the potential for acute exposures of any concern. Therefore, noncancer effects other than those effecting the central nervous or respiratory systems are not expected to occur prior to or after regulation, and are provided below only to illustrate the nature of the contaminant's effects at high dose. However, to the extent the adverse effects do occur, today's final rule would reduce emissions by sources subject to the standards and subsequent exposures to such emissions.

1. Acetaldehyde

Acetaldehyde is ubiquitous in the environment and may be formed in the body from the breakdown of ethanol

(ethyl alcohol). In humans, symptoms of chronic (long-term) exposure to acetaldehyde resemble those of alcoholism. Long-term inhalation exposure studies in animals reported effects on the nasal epithelium and mucous membranes, growth retardation, and increased kidney weight. We have classified acetaldehyde as a probable human carcinogen (Group B2) based on animal studies that have shown nasal tumors in rats and laryngeal tumors in hamsters.

2. Acrolein

Acute (short-term) inhalation exposure to acrolein may result in upper respiratory tract irritation and congestion. The major effects from chronic (long-term) inhalation exposure to acrolein in humans consist of general respiratory congestion and eye, nose, and throat irritation. Acrolein is a strong dermal irritant in humans. We consider acrolein to be a possible human carcinogen (Group C) based on limited animal cancer data suggesting an increased incidence of tumors in rats exposed to acrolein in the drinking water.

3. Formaldehyde

Both acute (short-term) and chronic (long-term) exposure to formaldehyde irritates the eyes, nose, and

throat. Limited human studies have reported an association between formaldehyde exposure and lung and nasopharyngeal cancer. Animal inhalation studies have reported an increased incidence of nasal squamous cell cancer. We consider formaldehyde a probable human carcinogen (Group B2).

4. Methanol

Chronic (long-term) exposure of humans to methanol by inhalation or ingestion may result in blurred vision, headache, dizziness, and nausea. No information is available on the reproductive, developmental, or carcinogenic effects of methanol in humans. Birth defects have been observed in the offspring of rats and mice exposed to high concentrations of methanol by inhalation. A methanol inhalation study using rhesus monkeys reported a decrease in the length of pregnancy and limited evidence of impaired learning ability in offspring. We have not classified methanol with respect to carcinogenicity.

5. Phenol

Oral exposure to small amounts of phenol may cause irregular breathing and muscular weakness. Anorexia, progressive weight loss, diarrhea, vertigo, salivation,

and a dark coloration of the urine have been reported in chronically (long-term) exposed humans. Gastrointestinal irritation and blood and liver effects have also been reported. No studies of developmental or reproductive effects of phenol in humans are available, but animal studies have reported reduced fetal body weights, growth retardation, and abnormal development in the offspring of animals exposed to relatively high doses of phenol by the oral route. We have classified phenol in Group D, not classifiable as to human carcinogenicity.

6. Propionaldehyde

Animal studies have reported that inhalation exposure to high levels of propionaldehyde results in anesthesia and liver damage. No information is available on the chronic (long-term), reproductive, developmental, or carcinogenic effects of propionaldehyde in animals or humans. We have not classified propionaldehyde for carcinogenicity.

7. Arsenic

Chronic (long-term) inhalation exposure to inorganic arsenic in humans is associated with irritation of the skin and mucous membranes. Human data suggest a relationship between inhalation exposure of women working

at or living near metal smelters and an increased risk of reproductive effects. Inorganic arsenic exposure in humans by the inhalation route has been shown to be strongly associated with lung cancer. We have classified inorganic arsenic as a Group A, human carcinogen.

8. Beryllium

Chronic (long-term) inhalation exposure of humans to beryllium has been reported to cause chronic beryllium disease (berylliosis), in which granulomatous (noncancerous) lesions develop in the lung. Inhalation exposure to beryllium has been demonstrated to cause lung cancer in rats and monkeys. Human studies are limited, but suggest a causal relationship between beryllium exposure and an increased risk of lung cancer. We have classified beryllium as a Group B1, probable human carcinogen, when inhaled; data are inadequate to determine whether beryllium is carcinogenic when ingested.

9. Cadmium

Chronic (long-term) inhalation or oral exposure to cadmium leads to a build-up of cadmium in the kidneys that can cause kidney disease. Cadmium has been shown to be a developmental toxicant at high doses in animals,

resulting in fetal malformations and other effects, but no conclusive evidence exists in humans. Animal studies have demonstrated an increase in lung cancer from long-term inhalation exposure to cadmium. We have classified cadmium as a Group B1, probable human carcinogen when inhaled; data are inadequate to determine whether cadmium is carcinogenic when ingested.

10. Chromium

Chromium may be emitted from PCWP facilities in two forms, trivalent chromium (chromium III) or hexavalent chromium (chromium VI). The respiratory tract is the major target organ for chromium VI toxicity. Bronchitis, decreased pulmonary function, pneumonia, and other respiratory effects have been noted from chronic high concentration exposure. Limited human studies suggest that chromium VI inhalation exposure may be associated with complications during pregnancy and childbirth, while animal studies have not reported reproductive effects from inhalation exposure to chromium VI. Human and animal studies have clearly established that inhaled chromium VI is a carcinogen, resulting in an increased risk of lung cancer. We have classified chromium VI as a Group A, human carcinogen by the inhalation exposure

route.

Chromium III is much less toxic than chromium VI. The respiratory tract is also the major target organ for chromium III toxicity, similar to chromium VI. Chromium III is an essential element in humans, with a daily oral intake of 50 to 200 micrograms per day (:g/d) recommended for an adult. Data on adverse effects of high oral exposures of chromium III are not available for humans, but a study with mice suggests possible damage to the male reproductive tract. We have not classified chromium III for carcinogenicity.

11. Manganese

Health effects in humans have been associated with both deficiencies and excess intakes of manganese. Chronic (long-term) exposure to low levels of manganese in the diet is considered to be nutritionally essential in humans, with a recommended daily allowance of 2 to 5 milligrams per day (mg/d). Chronic inhalation exposure to high levels of manganese by inhalation in humans results primarily in central nervous system (CNS) effects. Visual reaction time, hand steadiness, and eye-hand coordination were affected in chronically-exposed workers. Impotence and loss of

libido have been noted in male workers afflicted with manganism attributed to high-dose inhalation exposures. We have classified manganese as Group D, not classifiable as to human carcinogenicity.

12. Nickel

Nickel is an essential element in some animal species, and it has been suggested it may be essential for human nutrition. Nickel dermatitis, consisting of itching of the fingers, hands, and forearms, is the most common effect in humans from chronic (long-term) skin contact with nickel. Respiratory effects have also been reported in humans from inhalation exposure to nickel. No information is available regarding the reproductive or developmental effects of nickel in humans, but animal studies have reported such effects, although a consistent dose-response relationship has not been seen. The forms of nickel which might be emitted from PCWP facilities include soluble nickel, nickel subsulfide, and nickel carbonyl. We have classified nickel refinery dust and nickel subsulfide as Group A, human carcinogens, and nickel carbonyl as a Group B2, probable human carcinogen, by inhalation exposure. Human and animal studies have reported an increased risk of lung and nasal cancers from

exposure to nickel refinery dusts and nickel subsulfide. Animal inhalation studies of soluble nickel compounds (i.e., nickel carbonyl) have reported lung tumors.

13. Lead

Elemental lead may cause a variety of effects at low oral or inhaled dose levels. Chronic (long-term) exposure to high levels of lead in humans results in effects on the blood, CNS, blood pressure, and kidneys. Children are particularly sensitive to the chronic effects of lead, with slowed cognitive development, reduced growth, and other effects reported. Reproductive effects, such as decreased sperm count in men and spontaneous abortions in women, have been associated with lead exposure. The developing fetus is at particular risk from maternal lead exposure, with low birth weight and slowed postnatal neurobehavioral development noted. Human studies are inconclusive regarding lead exposure and cancer, while animal studies have reported an increase in kidney cancer from lead exposure by the oral route. We have classified lead as a Group B2, probable human carcinogen.

14. MDI

The MDI has been observed to irritate the skin and

eyes of rabbits. Chronic (long-term) inhalation exposure to MDI may cause asthma, dyspnea, and other respiratory impairments in workers. We have classified MDI within Group D, not classifiable as to human carcinogenicity.

15. Benzene

Chronic (long-term) inhalation exposure has caused various disorders in the blood, including reduced numbers of red blood cells. Increased incidence of leukemia (cancer of the tissues that form white blood cells) has been observed in humans occupationally exposed to benzene. We have classified benzene as a Group A, known human carcinogen.

E. Incorporation by Reference of NCASI Test Methods

Today's final rule amends 40 CFR 63.14 by revising paragraph (f) to incorporate by reference two test methods developed by the National Council of the Paper Industry for Air and Stream Improvement (NCASI): (1) Method CI/WP-98.01, "Chilled Impinger Method for Use at Wood Products Mills to Measure Formaldehyde, Methanol, and Phenol"; and (2) NCASI Method IM/CAN/WP-99.02, "Impinger/Canister Source Sampling Method for Selected HAPs and Other Compounds at Wood Products Facilities." These methods are available from NCASI, Methods Manual,

P.O. Box 133318, Research Triangle Park, NC 27709-3318 or at http://www.ncasi.org. They are also available from the docket for the final rule (Docket Number OAR-2003-0048 and Docket Number A-98-44). These documents were approved for incorporation by reference by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR 51.

F. Incorporation by Reference of ASTM Test Method

Today's final rule amends 40 CFR 63.14 by adding paragraph (b)(39) to incorporate by reference a test method developed by the American Society for Testing and Materials (ASTM), ASTM D6348-03, "Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy." This test method is available from ASTM, 100 Barr Harbor Drive, Post Office Box C700, West Conshohocken, PA 19428-2959; or ProQuest, 300 North Zeeb Road, Ann Arbor, MI 48106. This document has been approved for incorporation by reference by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR 51.

II. Summary of the Final Rule

A. What process units are subject to the final rule?

The final rule regulates HAP emissions from PCWP facilities that are major sources. Plywood and composite wood products are manufactured by bonding wood material (fibers, particles, strands, etc.) or agricultural fiber, generally with resin under heat and pressure, to form a structural panel or engineered wood product. Plywood and composite wood products manufacturing facilities also include facilities that manufacture dry veneer and lumber kilns located at any facility. Plywood and composite wood products include (but are not limited to) plywood, veneer, particleboard, oriented strandboard, hardboard, fiberboard, medium density fiberboard, laminated strand lumber, laminated veneer lumber, wood I-joists, kiln-dried lumber, and glue-laminated beams. Table 1 of this preamble lists the process units at PCWP facilities and indicates which process units are subject to the control requirements in today's final rule. "Process unit" means equipment classified according to its function such as a blender, dryer, press, former, or board cooler.

The affected source for the final rule is the combination of all PCWP manufacturing operations, including PCWP process units, onsite storage of raw materials, onsite wastewater treatment operations

associated with PCWP manufacturing, and miscellaneous coating operations located at a major source facility. One of the implications of this definition of affected source is that the control requirements, or “floor,” as defined in section 112(d)(3), are determined for the entire PCWP facility. Therefore, except for lumber kilns not otherwise located at PCWP facilities, the final rule contains the control requirements that represent the MACT level of control for the entire facility. For lumber kilns not otherwise located at PCWP facilities, the final rule contains the control requirements that represent the MACT level of control only for lumber kilns.

TABLE 1. PROCESS UNITS THAT ARE SUBJECT TO THE FINAL CONTROL REQUIREMENTS

For the following process units...	Does today’s final rule include control requirements for...	
	Existing affected sources?	New affected sources?
Softwood veneer dryers[a]; primary tube dryers; secondary tube dryers; rotary strand dryers; conveyor strand dryers; green rotary dryers; hardboard ovens; reconstituted wood product presses; and pressurized refiners	Yes	Yes
Press predryers; fiberboard mat dryers; and board coolers	No	Yes

Dry rotary dryers[a]; veneer redryers[a]; softwood plywood presses; hardwood plywood presses; engineered wood products presses; hardwood veneer dryers[a]; humidifiers; atmospheric refiners; formers; blenders; rotary agricultural fiber dryers; agricultural fiber board presses; sanders; saws; fiber washers; chippers; log vats; lumber kilns; storage tanks; wastewater operations; miscellaneous coating operations (including group 1 miscellaneous coating operations[a]); and stand-alone digesters	No	No

[a]These process units have work practice requirements in today's final rule in addition to or instead of control requirements. Group 1 miscellaneous coating operations include application of edge seals, nail lines, logo (or other information) paint, shelving edge fillers, trademark/grade-stamp inks, and wood putty patches to PCWP (except kiln-dried lumber) on the same site where the PCWP are manufactured. Group 1 miscellaneous coating operations also include application of synthetic patches to plywood at new affected sources.

B. What pollutants are regulated by the final rule?

The final rule regulates HAP emissions from PCWP facilities. For the purpose of compliance with 40 CFR part 63, subpart DDDD, we defined "total HAP" to be the sum of the emissions of six primary HAP emitted from PCWP manufacturing. The six HAP that define total HAP make up 96 percent of the nationwide HAP emissions from PCWP facilities and are acetaldehyde, acrolein, formaldehyde,

methanol, phenol, and propionaldehyde. Other HAP are sometimes emitted and controlled along with these six HAP, but in lower quantities. Depending upon which of the compliance alternatives you choose, you could be required to measure emissions of total HAP, total hydrocarbon (THC), methanol, or formaldehyde as surrogates for measuring all HAP. For the purpose of determining whether your facility is a major source, you would have to include all HAP as prescribed by rules and guidance pertaining to determination of major source.

C. What are the compliance options?

Today's final rule includes a range of compliance options, which are summarized in the following subsections. You must use one of the compliance options to show compliance with the final rule. In most cases, the compliance options are the same for new and existing sources. Dilution to achieve compliance is prohibited, as specified in 40 CFR 63.4.

1. Production-Based Compliance Options

Today's final rule includes production-based compliance options (PBCO), which are based on total HAP and vary according to type of process unit. Total HAP emissions are defined in today's final rule as the total

mass emissions of the following six HAP: acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde. The PBCO are in units of mass of pollutant per unit of production. Add-on control systems may not be used to meet the production-based compliance options. For pressurized refiners and most dryers, the PBCO are expressed as pounds per oven-dried-ton of wood (lb/ODT). For presses, hardboard ovens, and some dryers, the PBCO are expressed as pounds per thousand square feet of board (lb/MSF), with a reference board thickness. There is no PBCO for conveyor strand dryers.

2. Add-On Control System Compliance Options

If you operate a process unit equipped with an add-on control system, you may use any one of the following six compliance options. “Add-on control system” or “control system” means the combination of capture and control devices used to reduce HAP emissions to the atmosphere.

(1) Reduce THC emissions (as carbon, and minus methane if you wish to subtract methane) by 90 percent.

(2) Reduce methanol emissions by 90 percent.

(3) Reduce formaldehyde emissions by 90 percent.

(4) Limit the concentration of THC (as carbon, and minus methane if you wish to subtract methane) in the

outlet of the add-on control system to 20 parts per million by volume, dry basis (ppmvd).

(5) Limit the concentration of methanol in the exhaust from the add-on control system to 1 ppmvd (can be used only if the concentration of methanol entering the control device is greater than or equal to 10 ppmvd).

(6) Limit the concentration of formaldehyde in the exhaust from the add-on control system to 1 ppmvd (can be used only if the concentration of formaldehyde entering the control device is greater than or equal to 10 ppmvd).

In the first three options ((1) through (3)), the 90 percent control efficiency represents a total control efficiency. Total control efficiency is defined as the product of the capture efficiency and the control device efficiency. For process units such as rotary strand dryers, capture efficiency is not an issue because the rotary strand dryer has a single exhaust point which is easily captured by the control device. However, for presses and board coolers, the HAP emissions cannot be completely captured without installing an enclosure. If the enclosure meets the criteria for a wood products enclosure as defined in §63.2292 in today's final rule, then you would assign the enclosure a capture efficiency

of 100 percent. You must test other enclosures to determine capture efficiency using EPA Test Methods 204 and 204A through 204F (as appropriate) found in 40 CFR part 51, appendix M, or the alternative tracer gas procedure in appendix A to today's final rule. For the three concentration options ((4) through (6)), you must have an enclosure that either meets the criteria for a wood products enclosure or achieves a capture efficiency greater than or equal to 95 percent.

The six compliance options are equivalent ways to express the HAP control levels that represent the MACT floor. Because the compliance options are equivalent for controlling HAP emissions, you are required to meet only one of the six compliance options for add-on control systems. However, you must designate in your permit which one of the six options you have selected for the affected process unit. If you plan to operate a given process unit under different conditions, you may incorporate multiple compliance options for the add-on control system into your permit, as long as each separate operating condition is identified along with the compliance option that corresponds to that operating condition.

3. Emissions Averaging Compliance Option

Emissions averaging is a means of achieving the required emissions reductions in a less costly way. Therefore, if you operate an existing affected source, for each process unit you could choose to comply with the emissions averaging provisions instead of the production-based compliance options or add-on control system compliance options.

Emissions averaging is a system of debits and credits in which the credits must equal or exceed the debits. “Debit-generating process units” are the PCWP process units that are required to meet the control requirements but that you choose to either not control or under-control. “Credit-generating process units” are the PCWP process units that you choose to control that are not required to be controlled under the standards. When determining your actual mass removal (AMR) of HAP, you may include partial credits generated from debit-generating process units that are under-controlled (e.g., you may receive credit for 25 percent control of a debit-generating process unit). Control devices used for credit-generating process units may not be assigned more than 90 percent control efficiency.

Under the emissions averaging provisions, you would determine the required mass removal (RMR) of total HAP from debit-generating process units for a 6-month compliance period. Total HAP is defined in today's final rule to include acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde. The RMR would be based on initial total HAP measurements for each debit-generating process unit, your process unit operating hours for a 6-month period, and the required 90 percent control system efficiency. One hundred percent of the RMR for debit-generating process units would have to be achieved or exceeded by the AMR of total HAP achieved by credit-generating process units. The AMR is determined based on initial performance tests, the total HAP removal efficiency (not to exceed 90 percent) of the control systems used to control the credit-generating process units, and your process unit operating hours over the 6-month period.

There are some restrictions on use of the emissions averaging provisions in today's final rule. You must limit emissions averaging to the process units located within your affected source. Emissions averaging may not be used at new affected sources. You may not include in

an emissions average those process units that are not operating or that are shut down. Only PCWP process units using add-on control systems may be used to generate credits.

D. What operating requirements are in the final rule?

The operating requirements in today's final rule apply to add-on control systems used to comply with the final rule and to process units meeting the final production-based compliance options or emissions averaging provisions without an add-on control device (e.g., debit-generating process units). For incineration-based control devices and biofilters, the final rule specifies that you must either monitor operating parameters or use a THC continuous emission monitoring system (CEMS) to demonstrate continuous compliance. The final operating requirements are summarized below:

- If you operate a thermal oxidizer, such as a regenerative thermal oxidizer (RTO), you must maintain the firebox temperature at a level that is greater than or equal to the minimum temperature established during the performance test. If you operate a combustion unit that accepts process exhaust into the flame zone, you are exempt from the testing and

monitoring requirements described above for thermal oxidizers.

- If you operate a catalytic oxidizer, such as a regenerative catalytic oxidizer (RCO) or thermal catalytic oxidizer (TCO), you must maintain the average catalytic oxidizer temperature at or above the minimum temperature established during the performance test. You must also check the activity level of a representative sample of the catalyst at least every 12 months.
- If you operate a biofilter, you must maintain the average biofilter bed temperature within the range you develop during the initial performance test or during qualifying previous performance tests using the required test methods. If you use values from previous performance tests to establish the operating parameter ranges, you must certify that the biofilter and associated process unit(s) have not been modified subsequent to the date of the performance tests.
- If you operate an add-on control system not listed in today's final rule, you must establish operating parameters to be monitored and parameter values that represent your operating requirements during the

performance test, subject to prior written approval by the Administrator.

- If you operate a process unit that meets the production-based compliance options or a process unit that generates debits in an emissions average without an add-on control device, you must maintain on a daily basis the process unit controlling operating parameter(s) within the ranges established during the performance test corresponding to the representative operating conditions identified during the performance test.
- As an alternative to monitoring the operating parameters specified above for thermal oxidizers, catalytic oxidizers, biofilters, other control devices, and process units that meet compliance options without add-on control systems, you may monitor THC concentration in the outlet stack with a THC CEMS. If you select this option, you must maintain the outlet THC concentration below the maximum concentration established during the performance test. You may choose to subtract methane from the THC concentration measured by the CEMS if you wish to do so.

E. What are the work practice requirements?

The work practice requirements in today's final rule apply to softwood veneer dryers, dry rotary dryers, veneer redryers, hardwood veneer dryers, and group 1 miscellaneous coating operations. For softwood veneer dryers, the work practice requirements require you to minimize fugitive emissions from the veneer dryer doors (by applying appropriate operation and maintenance procedures) and from the green end of the dryers (through proper balancing of hot zone exhausts). For group 1 miscellaneous coating operations, the work practice requirements specify that you must use a non-HAP coating. The work practice requirements also specify parameters that you must monitor to demonstrate that each dry rotary dryer, veneer redryer, and hardwood veneer dryer continuously operates in a manner consistent with the definitions of these process units provided in today's final rule, as follows:

- If you operate a dry rotary dryer, you must maintain the inlet dryer temperature at or below 600°F and maintain the moisture content of the wood particles entering the dryer at or below 30 weight percent, on a dry basis.

- If you operate a veneer redryer, you must maintain the moisture content of the wood veneer entering the dryer at or below 25 percent, by weight.
- If you operate a hardwood veneer dryer, you must process less than 30 percent, by volume, softwood species each year.

F. When must I comply with the final rule?

Existing PCWP facilities must comply within 3 years of [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER]. New sources that commence construction after January 9, 2003, must comply immediately upon initial startup or on [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER], whichever is later.

Existing sources that wish to be included in the delisted low-risk subcategory must receive EPA approval of their eligibility demonstrations no later than 3 years after [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER], or be in compliance with the final rule. New sources that wish to be included in the delisted low-risk subcategory must receive EPA approval of their eligibility demonstrations no later than initial startup or on [INSERT DATE 60 DAYS

AFTER DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER], which ever is later, or be in compliance with the final rule.

G. How do I demonstrate initial compliance with the final rule?

The initial compliance requirements in today's final rule vary with the different compliance options.

1. Production-Based Compliance Options

If you are complying with the PBCO in today's final rule, you must conduct an initial performance test using specified test methods to demonstrate initial compliance. You must test the efficiency of your emissions capture device during the initial performance test if the process unit is a press or board cooler. The actual emission rate of the press or board cooler is equivalent to the measured emissions divided by the capture efficiency. You must test prior to any wet control device operated on the process unit. During the performance test, you must identify the process unit controlling parameter(s) that affect total HAP emissions; these parameters must coincide with the representative operating conditions you describe in the performance test. For each parameter, you must specify appropriate monitoring methods and

monitoring frequencies, and for continuously monitored parameters, you must specify averaging times not to exceed 24 hours. You must install process monitoring equipment or establish recordkeeping procedures to be used to demonstrate compliance with the operating requirements for the parameters you select. During the initial performance test, you must use the process monitoring equipment or recordkeeping procedures to establish the parameter value (e.g., maximum, minimum, average, or range, as appropriate) that represents your operating requirement for the process unit. Alternatively, you may install a THC CEMS and monitor the process unit outlet THC concentration and establish your THC operating requirement during the performance test.

2. Add-On Control System Compliance Options

If you use the compliance options for add-on control systems, you must conduct an initial performance test using specified test methods to demonstrate initial compliance. With the exception of the 20 ppmvd THC concentration option, you must test at both the inlet and the outlet of the HAP control device. For HAP-altering controls in sequence, such as a wet control device followed by a thermal oxidizer, you must test at the

functional inlet of the control sequence (e.g., prior to the wet control device) and at the outlet of the control sequence (e.g., thermal oxidizer outlet). If you use a wet control device as the sole means of reducing HAP emissions, you must develop and implement a plan to address how organic HAP captured in the wastewater from the wet control device is contained or destroyed to minimize re-release to the atmosphere such that the desired emission reduction is obtained. If you use any of the six compliance options for add-on control systems, and the process unit is a press or a board cooler without a wood products enclosure, you must also test the capture efficiency of your partial wood products enclosure. Prior to the initial performance test, you must install control device parameter monitoring equipment or THC CEMS to be used to demonstrate compliance with the operating requirements for add-on control systems in today's final rule. During the initial performance test, you must use the control device parameter monitoring equipment or THC CEMS to establish the parameter values that represent your operating requirements for the control systems. If your add-on control system is preceded by a particulate control device (e.g., baghouse or wet electrostatic

precipitators (WESP)), you must establish operating parameter values for the HAP control system and not for the particulate control device. If your control device is a biofilter, then you may use values recorded during previous performance tests for the biofilter to establish your operating requirements as long as you were in compliance with the emission limits in today's final rule when the data were collected, the test data were obtained using the test methods in today's final rule, and no modifications were made to the process unit or biofilter subsequent to the date of the performance tests.

3. Emissions Averaging Compliance Option

If you elect to comply with the emissions averaging compliance option in today's final rule, you must submit an Emissions Averaging Plan (EAP) to the Administrator for approval. The EAP must describe the process units you are including in the emissions average. The plan also must specify which process units will be credit-generating units (including under-controlled, debit-generating process units that also generate credits) and which process units will be debit-generating units. The EAP must also include descriptions of the control systems used to generate emission credits, documentation of the

total HAP measurements made to determine the RMR, calculations and supporting documentation to demonstrate that the AMR will be greater than or equal to the RMR, and a summary of the operating parameters that will be monitored.

Following approval of your EAP, you must conduct performance tests to determine the total HAP emissions from all process units included in the EAP. The credit-generating process units must be equipped with add-on control systems; therefore, for those process units, you must follow the procedures for demonstrating initial compliance as outlined above for add-on control systems. For debit-generating process units without air pollution control devices (APCD), you must follow the same procedure for establishing your operating requirements as outlined above for process units meeting the PBCO. The emissions averaging provisions require you to conduct all total HAP measurements and performance test(s) when the process units are operating under representative operating conditions. Today's final rule defines "representative operating conditions" as those conditions under which the process unit will typically be operating following the compliance date. Representative conditions

include such things as using a representative range of materials (e.g., wood material of a typical species mix and moisture content, typical resin formulations) and operating the process unit at typical operating temperature ranges.

4. Work Practice Requirements

The work practice requirements in today's final rule do not require you to conduct any initial performance tests. To demonstrate initial compliance with the work practice requirements for dry rotary dryers, you must install parameter monitoring devices to continuously monitor the dryer inlet operating temperature and the moisture content (dry basis) of the wood furnish (i.e., wood fibers, particles, or strands used for making board) entering the dryer. You must then use the parameter monitoring devices to continuously monitor and record the dryer temperature and wood furnish moisture content for a minimum of 30 days. If the monitoring data indicate that during the minimum 30-day demonstration period, your dry rotary dryer continuously processed wood furnish with an inlet moisture content less than or equal to 30 percent, and the dryer was continuously operated at an inlet dryer temperature less than or equal to 600°F, then your dryer

meets the definition of a dry rotary dryer in today's final rule. You must submit the monitoring data as part of your notification of compliance status report.

To demonstrate initial compliance with the work practice requirements for hardwood veneer dryers, you must calculate the annualized percentage of softwood veneer processed in the dryer by volume, using veneer dryer production records for the 12-month period prior to the compliance date. If the total annual percentage by volume of softwood veneer is less than 30 percent, your veneer dryer meets the definition of hardwood veneer dryer. You must then submit a summary of the production data for the 12-month period and a statement verifying that the veneer dryer will continue to process less than 30 percent softwoods as part of your notification of compliance status report.

To demonstrate initial compliance with the work practice requirements for softwood veneer dryers, you must develop a plan for minimizing fugitive emissions from the veneer dryer green end and heated zones. You must submit the plan with your notification of compliance status report.

To demonstrate initial compliance with the work

practice requirements for veneer redryers, you must install a device that can be used to continuously monitor the moisture content (dry basis) of veneer entering the dryer. You must then use the moisture monitoring device to continuously monitor and record the inlet moisture content of the veneer for a minimum of 30 days. If the monitoring data indicate that your veneer dryer continuously processed veneer with a moisture content less than or equal to 25 percent during the minimum 30-day demonstration period, then your veneer dryer meets the definition of a veneer redryer in today's final rule. You must submit the monitoring data as part of your notification of compliance status report.

To demonstrate initial compliance with the work practice requirement for group 1 miscellaneous coating operations, you must submit a signed statement with your notification of compliance status report stating that you are using non-HAP coatings. You must also have a record (e.g., material safety data sheets) showing that you are using non-HAP coatings as defined in today's final rule.

H. How do I demonstrate continuous compliance with the final rule?

The continuous compliance requirements in today's

final rule vary with the different types of compliance options.

1. Production-Based Compliance Options

If you comply with the PBCO, then you must monitor and/or record the controlling operating parameter(s) identified as affecting total HAP emissions from the process unit(s) in the performance test. For each parameter, you must use the monitoring methods, monitoring frequencies, and averaging times (for continuously monitored parameters not to exceed 24 hours) specified in your performance test and Notification of Compliance Status. For each operating parameter, you must maintain on a daily basis the parameter at or above the minimum, at or below the maximum, or within the range (whichever applies) established during the performance test.

Instead of monitoring process operating parameters, you may operate a CEMS for monitoring THC concentration to demonstrate compliance with the operating requirements in today’s final rule. If you choose to operate a THC CEMS in lieu of a continuous parameter monitoring systems (CPMS), you must demonstrate continuous compliance, as described in the following subsection.

2. Add-On Control System Compliance Options

For add-on control systems, you must install a CPMS to monitor the temperature or install a CEMS to monitor THC concentration to demonstrate compliance with the operating requirements in today's final rule. If you operate a CPMS, you must have at least 75 percent of the required recorded readings for each 3-hour or 24-hour block averaging period to calculate the data averages. You must operate the CPMS at all times the process unit is operating. You must also conduct proper maintenance of the CPMS and maintain an inventory of necessary parts for routine repairs of the CPMS. Using the data collected with the CPMS, you must calculate and record the average values of each operating parameter according to the specified averaging times.

For thermal oxidizers, you must continuously maintain the 3-hour block average firebox temperature at or above the minimum temperature established during the performance test. For catalytic oxidizers, you must continuously maintain the 3-hour block average catalytic oxidizer temperature at or above the minimum value established during the performance test. You must also check the activity level of a representative sample of

the catalyst at least every 12 months and take any necessary corrective action to ensure that the catalyst is performing within its design range.

For biofilters, you must continuously maintain the 24-hour block average biofilter bed temperature within the operating range you establish during the performance test. You must also conduct a repeat performance test using the applicable method(s) within 2 years following the previous performance test and within 180 days after each replacement of any portion of the biofilter bed with a different media or each replacement of more than 50 percent (by volume) of the biofilter bed media with the same type of media.

If you choose to operate a CEMS for monitoring THC concentration instead of operating a CPMS, you must install, operate, and maintain the CEMS according to Performance Specification 8 in 40 CFR part 60, appendix B. You must also comply with the CEMS data quality assurance requirements in Procedure 1 of appendix F of 40 CFR part 60. You must conduct a performance evaluation of the CEMS according to 40 CFR 63.8 and Performance Specification 8. The CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data

recording) for each successive 15-minute period. Using the data collected with the CEMS, you must calculate and record the 3-hour block average THC concentration for thermal or catalytic oxidizers. For biofilters, you must calculate and record the 24-hour block average THC concentration. You must continuously monitor and maintain the 24-hour block average THC concentration at or below the maximum established during the performance test. You may use a CEMS that subtracts methane from the measured THC concentration if you wish to do so.

If you comply with today's final rule using an add-on control system, you may request a routine control device maintenance exemption from the Administrator. Your request for a routine control device maintenance exemption must document the need for routine maintenance on the control device and the time required to accomplish the maintenance, describe the maintenance activities and the frequency of these activities, explain why the maintenance cannot be accomplished during process shutdowns, describe how you plan to make reasonable efforts to minimize emissions during these maintenance activities, and provide any other documentation required by the Administrator. If your request for the routine

control device maintenance exemption is approved by the Administrator, it must be incorporated into your title V permit. The compliance options and operating requirements would not apply during times when control device maintenance covered under your approved routine control device maintenance exemption is performed. The routine control device maintenance exemption may not exceed 3 percent of annual operating uptime for each green rotary dryer, tube dryer, rotary strand dryer, or pressurized refiner controlled. The routine control device maintenance exemption is limited to 0.5 percent of the annual operating uptime for each softwood veneer dryer, reconstituted wood product press, reconstituted wood product board cooler, hardboard oven, press predryer, conveyor strand dryer, or fiberboard mat dryer controlled. If your control device is used to control a combination of equipment with different downtime allowances (e.g., a tube dryer and a press), then the highest (i.e., 3 percent) downtime allowance applies.

3. Emissions Averaging Compliance Option

To demonstrate continuous compliance with the emissions averaging provisions, you must continuously comply with the applicable operating requirements for

add-on control systems (described in the previous subsection). You also must maintain records of your operating hours for each process unit included in the EAP. For each semiannual compliance period, you must demonstrate that the AMR equals or exceeds the RMR using your initial (or most recent) total HAP measurements for debit-generating units, initial (or most recent) performance test results for credit-generating units, and the operating hours recorded for the semiannual compliance period.

4. Work Practice Requirements

To demonstrate continuous compliance with the work practice requirements for dry rotary dryers and veneer redryers, you must operate all dry rotary dryers and veneer redryers so that they continuously meet the definitions of these process units in today’s final rule. For dry rotary dryers, you must continuously monitor and maintain the inlet furnish moisture content at or below 30 percent and the inlet dryer operating temperature at or below 600°F. You must also calibrate the moisture monitor based on the procedures specified by the moisture monitor manufacturer at least once per semiannual compliance period to verify the readings from the

moisture meter. For veneer redryers, you must continuously monitor and maintain the inlet veneer moisture content at or below 25 percent.

To demonstrate continuous compliance with the work practice requirements for softwood veneer dryers, you must follow the procedures in your operating plan for minimizing fugitive emissions from the green end and heated zones of the veneer dryer and maintain records documenting that you have followed your plan. For hardwood veneer dryers, you must continue to process less than 30 percent softwood veneer by volume and maintain records on veneer dryer production.

To demonstrate continuous compliance with the work practice requirements for group 1 miscellaneous coating operations, you must keep records showing that you continue to use non-HAP coatings as defined in the final rule.

I. How do I demonstrate that my affected source is part of the low-risk subcategory?

For your affected source to be part of the delisted low-risk subcategory, you must have a low-risk demonstration approved by EPA, and you must then have federally enforceable conditions reflecting the

parameters used in your EPA-approved demonstration incorporated into your title V permit to ensure that your affected source remains low-risk. Low-risk demonstrations for eight facilities were conducted by EPA, and no further demonstration is required for them. They will, however, need to obtain title V permit terms reflecting their status. (We will provide these sources and their title V permitting authorities with the necessary parameters for establishing corresponding permit terms and conditions.) These facilities are listed in Table 2 to this preamble. Other facilities may demonstrate to EPA that their PCWP affected source is low risk by using the look-up tables in appendix B to 40 CFR part 63, subpart DDDD or conducting a site-specific risk assessment as specified in appendix B to subpart DDDD. Appendix B to subpart DDDD also specifies which process units and pollutants must be included in your low-risk demonstration, emissions testing methods, the criteria for determining if a affected source is low risk, risk assessment methodology (look-up table analysis or site-specific risk analysis), contents of the low-risk demonstration, schedule for submitting and obtaining approval of your low-risk demonstration, and methods for

ensuring that your affected source remains in the low-risk subcategory. If you demonstrate that your affected source is part of the delisted low-risk subcategory of PCWP manufacturing facilities, then your affected source is not subject to the MACT compliance options, operating requirements, and work practice requirements in the final PCWP rule (subpart DDDD).

1. Low-risk Criteria

We may approve your affected source as eligible for membership in the delisted low-risk subcategory of PCWP sources if we determine that it is low risk for both carcinogenic and noncarcinogenic effects. To be considered low risk, the PCWP affected source must meet the following criteria: (1) the maximum off-site individual lifetime cancer risk at a location where people live is less than one in one million for carcinogenic chronic inhalation effects; (2) every maximum off-site target-organ specific hazard index (TOSHI) (or, alternatively, an appropriately site-specific set of hazard indices based on similar or complementary mechanisms of action that are reasonably likely to be additive at low dose or dose-response data for your affected source’s HAP mixture) at a location

where people live is less than or equal to 1.0 for noncarcinogenic chronic inhalation effects; and (3) the maximum off-site acute hazard quotients for acrolein and formaldehyde are less than or equal to 1.0 for noncarcinogenic acute inhalation effects. These criteria are built into the look-up tables included in appendix B to subpart DDDD. Facilities conducting site-specific risk assessments must explicitly demonstrate that they meet these criteria. Facilities need not perform site-specific multipathway human health risk assessments or ecological risk assessments since EPA performed a source category-wide screening assessment which demonstrates that these risks are insignificant for all sources.

2. PCWP Affected Sources Delisted in Today’s Action

Eight PCWP affected sources are being delisted today as part of the low-risk subcategory. They are listed below in Table 2 of this preamble. If your affected source is part of the low-risk subcategory and you do not wish it to remain in the subcategory, you may notify us, in writing, and we will remove your affected source from the low-risk subcategory. Any affected sources removed from the low-risk subcategory are subject to the requirements of subpart DDDD, as applicable. Please

address your written notification to Ms. Mary Tom Kissell (see **FOR FURTHER INFORMATION CONTACT** section).

TABLE 2. LOW-RISK Affected sources IN THE LOW-RISK PCWP SUBCATEGORY

Name of Facility	**Location**
Georgia-Pacific Plywood Plant	Monroeville, AL
Georgia-Pacific - Hawthorne Plywood Mill	Hawthorne, FL
Oregon Panel Products (Lebanite)	Lebanon, OR
Hardel Mutual Plywood Corporation	Chehalis, WA
Hood Industries, Incorporated	Wiggins, MS
Plum Creek Manufacturing, LP	Kalispell, MT
Potlatch Corporation - St. Maries Plywood	St. Maries, ID
SierraPine Limited, Rocklin MDF	Rocklin, CA

We performed a risk assessment to determine the magnitude of potential chronic human cancer and noncancer risks and the potential for acute noncancer risks and adverse environmental impacts associated with the sources in the PCWP source category. The risk assessment was performed for 181 of the 223 major PCWP affected sources. Affected sources where available location data were ambiguous or where all of their site-specific information was requested to be treated as confidential were excluded from the analysis, leaving a total of 181 affected

sources in the assessment. For the risk assessment, we used our baseline emission estimates (developed using average emission factors and, if available, site-specific process throughput data) and model PCWP emissions release characteristics as inputs into our Human Exposure Model (HEM) to generate cancer and non-cancer risk estimates for the 181 PCWP affected sources. The risk assessment methodology is explained in detail in the supporting information for this final rule.

Because our risk estimates include model emissions release information, they are not as rigorous as the risk demonstrations we are requiring PCWP affected sources to perform. Therefore, to ensure the affected sources listed in Table 2 of this preamble meet the low risk criteria in appendix B to subpart DDDD, we subjected them to more stringent standards than required for risk demonstrations based on better (i.e., site-specific) data. First, we increased the level of protection to human health by a factor of 10. Instead of using the criteria established in appendix B to subpart DDDD of one in 1 million risk for cancer and TOSHI of less than or equal to 1.0, PCWP affected sources with cancer risk greater than 0.1 in 1 million or a TOSHI greater than 0.1

were excluded. For the remaining PCWP affected sources, we estimated emission factors based on the highest emissions test data we had. We remodeled these PCWP affected sources using worst-case (i.e. highest) emission factors and the January 2004 IRIS cancer URE for formaldehyde. From this analysis, affected sources with hazard index values greater than 0.2 or cancer risks greater than one in 1 million were excluded. Of the remaining affected sources, we eliminated those that are closed, have pending enforcement actions, and that did not submit or claimed as confidential site-specific throughput data. We also consulted with an industry trade association and they removed various affected sources from the list for various reasons.

3. Determining HAP Emissions from the Affected Source

You must include in your low-risk demonstration every process unit within the PCWP affected source that emits one or more of the following HAP: acetaldehyde, acrolein, arsenic, benzene, beryllium, cadmium, chromium, formaldehyde, lead, MDI, manganese, nickel, and phenol. You must conduct emissions testing using the methods specified in appendix B to subpart DDDD. For reconstituted wood product presses or reconstituted wood

product board coolers, you must determine the capture efficiency of the capture device. If you use a control device for purposes of demonstrating that your affected source is part of the low-risk subcategory, then you must collect monitoring data and establish operating limits for the control system using the same methods specified in subpart DDDD.

4. Low-risk Demonstrations

Once you have conducted emissions testing, you may perform a lookup table analysis or site-specific risk analysis. Regardless of the type of risk analysis used, you must use the most recent EPA-approved dose-response values as posted on our Air Toxics Website at http://www.epa.gov.ttn/atw/toxsource/summary.html to demonstrate that your affected source may be part of the low-risk subcategory. If you can demonstrate that your affected source is low-risk based on the look-up table analysis, then you need not complete a site-specific risk analysis. If your affected source is not low-risk based on the look-up table analysis, then you may elect to proceed with site-specific risk analysis. Appendix B to subpart DDDD specifies what your low-risk demonstration must contain.

Look-up table analysis. You may use the look-up tables (Tables 3 and 4 to 40 CFR part 63, subpart DDDD, appendix B) to determine if your affected source may be part of the low-risk subcategory. Table 3 to appendix B to subpart DDDD provides the maximum allowable toxicity-weighted carcinogen emission rate, and Table 4 to appendix B to subpart DDDD provides the maximum allowable toxicity-weighted noncarcinogen emission rate that your affected source can emit. To use the look-up tables, you must determine your toxicity-weighted carcinogen and noncarcinogen emission rates using the equations in appendix B to subpart DDDD; the average stack height of all PCWP emission points at your affected source; and the minimum distance from any emission point to the nearest property boundary. If the total toxicity-weighted carcinogen and noncarcinogen emission rates for your affected source are less than or equal to the values in both look-up tables, then EPA may approve your affected source as part of the low-risk subcategory of PCWP affected sources.

Site-specific risk assessment. You may use any scientifically-accepted peer-reviewed risk assessment methodology to demonstrate to EPA that your affected

source may be low risk. An example approach to performing a site-specific risk assessment for air toxics that may be appropriate for your affected source can be found in the “Air Toxics Risk Assessment Reference Library.” However, this approach may not be appropriate for all affected sources, and EPA may require that any specific affected source use an alternative approach. You may obtain a copy of the “Air Toxics Risk Assessment Reference Library, Volume 2, Site-Specific Risk Assessment Technical Resource Document” through EPA’s air toxics website at www.epa.gov/ttn/atw.

For EPA to approve your low-risk demonstration, you must demonstrate that: (1) the maximum off-site individual lifetime cancer risk at a location where people live is less than one in one million for carcinogenic chronic inhalation effects; (2) every maximum off-site TOSHI at a location where people live is less than or equal to 1.0 for non-carcinogenic chronic inhalation effects; and (3) the maximum off-site acute hazard quotients for acrolein and formaldehyde are less than or equal to 1.0 for noncarcinogenic acute inhalation effects.

5. When must I submit risk demonstrations to EPA?

You must submit your low-risk demonstration to EPA for approval. If you have an existing affected source, you must submit your low-risk demonstration no later than [INSERT DATE 24 MONTHS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]. To facilitate the review and approval process, EPA encourages facilities to submit their assessments as soon as possible. If you have an affected source that is an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP before the effective date of subpart DDDD, then you must complete and submit for EPA approval your low-risk demonstration no later than [INSERT DATE 24 MONTHS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]. If you have an affected source that is an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP after the effective date of subpart DDDD, then you must complete and submit for approval your low-risk demonstration no later than 12 months after you become a major source or after initial startup of your affected source as a major source, whichever is later.

If you have a new or reconstructed affected source you must conduct the emission tests upon initial startup and

use the results of these emissions tests to complete and submit your low-risk demonstration within 180 days following your initial startup date. If your new or reconstructed affected source starts up before the effective date of subpart DDDD, for EPA to find that you are included in the low-risk subcategory, your low-risk demonstration must show that you were eligible for the low-risk subcategory no later than the effective date of subpart DDDD. If your new or reconstructed source starts up after the effective date of subpart DDDD, for EPA to find that you are included in the low-risk subcategory, your low-risk demonstration must show that you were eligible for the low-risk subcategory upon initial startup of your affected source.

Affected sources that are not part of the low-risk subcategory within 3 years after the effective date of subpart DDDD must comply with the requirements of 40 CFR part 63, subpart DDDD. Facilities may not request compliance extensions from the permitting authority if they fail to demonstrate they are part of the low-risk subcategory or to request additional time to install controls to become part of the low-risk subcategory. All approved low risk sources must then obtain title V permit

revisions including terms and conditions reflecting the parameters used in their approved demonstrations, according to the schedules in their applicable part 70 or part 71 title V permit programs.

6. Remaining in the Low-risk Subcategory

You must ensure that your affected source is low risk by periodically certifying your affected source is low risk, monitoring applicable HAP control device parameters, and by maintaining certain records. You must certify with each annual title V permit compliance certification that the basis for your affected source's low-risk determination has not changed. Your certification must consider process changes that increase HAP emissions, population shifts, and changes to dose-response values. If your affected source commences operating outside of the low-risk subcategory, it is no longer part of the low-risk subcategory. You must notify the permitting authority as soon as you know, or could have reasonably known, that your affected source is or will be operating outside of the low-risk subcategory. You must be in compliance with all of the applicable requirements of 40 CFR part 63, subpart DDDD beginning on the date when your affected source commences operating

outside the low-risk subcategory if you had a process change that increases HAP emissions. If you are operating outside of the low-risk subcategory due to a population shift or change to dose-response values, then you must comply with all of the applicable requirements of 40 CFR part 63, subpart DDDD no later than three years from the date your affected source commences operating outside the low-risk subcategory.

III. Summary of Environmental, Energy, and Economic Impacts A. How many facilities are impacted by the final rule?

Facilities with estimated potential to emit 25 tons or more of total HAP or 10 or more tons of an individual HAP are major sources of HAP and are subject to the final rule. Approximately 223 PCWP major source facilities nationwide are expected to meet the applicability criteria defined in today's final rule. These major source facilities generally manufacture one or more of the following products: softwood plywood, softwood veneer, medium density fiberboard (MDF), oriented strandboard (OSB), particleboard, hardboard, laminated strand lumber, and laminated veneer lumber. However, only 212 of these facilities have equipment that is

subject to the control requirements of the final rule. In addition, there are approximately 34 major source sawmill facilities that produce kiln-dried lumber; although these major source sawmill facilities meet the applicability criteria in the final rule, there are no control requirements for any of the equipment located at the sawmills.

The number of impacted facilities was determined based on the estimated potential to emit (i.e., uncontrolled HAP emissions) from each facility, whether each facility has any process units subject to the compliance options, whether or not the facility already operates control systems necessary to meet the final rule, and whether or not the affected source is currently eligible (or may later demonstrate eligibility) for inclusion in the delisted low risk subcategory. Of the 223 major source facilities, an estimated 162 are expected to install add-on control systems to reduce emissions. The remaining facilities already have installed add-on controls, do not have any process units subject to the compliance options, are expected to comply with work practice requirements only, or are one of the eight facilities currently eligible for inclusion in the delisted low-risk

subcategory. We estimate that eventually as many as 147 of the 223 major source PCWP facilities may demonstrate eligibility for the low-risk subcategory, leaving 58 facilities expected to install add-on control systems to reduce emissions. Some of the 147 facilities expected to eventually be included the low-risk subcategory were not expected to install controls to meet MACT because they either already have the necessary controls or do not have process units subject to the compliance options in today's final rule.

The environmental and cost impacts presented in this preamble represent the estimated impacts for the range of facilities, from 58 facilities estimated to be impacted following completion of eligibility demonstrations for the low-risk subcategory, to 162 facilities estimated to be impacted today. The impact estimates were based on the use of RTO (or in some cases a combination WESP and RTO) because RTO are the most prevalent HAP emissions control technology used in the PCWP industry. However, technologies other than RTO could be used to comply with today's final rule. For a facility that we feel already achieves the emissions reductions required by today's final rule, only testing, monitoring, reporting and

recordkeeping cost impacts were estimated.

B. What are the air quality impacts?

We estimate nationwide baseline HAP emissions from the PCWP source category to be 17,000 Mg/yr (19,000 tons/yr) at the current level of control. We estimate that today's final rule will reduce total HAP emissions from the PCWP source category by about 9,900 Mg/yr (11,000 tons/yr). In addition, we estimate that today's final rule will reduce VOC emissions (approximated as THC) by about 25,000 Mg/yr (27,000 tons/yr) from a baseline level of 45,000 Mg/yr (50,000 tons/yr). Depending on the number of facilities eventually demonstrating eligibility for the low-risk subcategory, these emission reductions could change to 5,900 Mg/yr (6,600 tons/yr) for HAP or 13,000 Mg/yr (14,000 tons/yr) for VOC.

In addition to reducing emissions of HAP and VOC, today's final rule will also reduce emissions of criteria pollutants, such as carbon monoxide (CO) from direct-fired emission sources and particulate matter less than 10 microns in diameter (PM_{10}). We estimate that today's final rule will reduce CO emissions by about 9,500 Mg/yr (10,000 tons/yr). We also estimate that the final rule will reduce PM_{10} emissions by about 11,000 Mg/yr (12,000

tons/yr). Depending on the number of facilities eventually demonstrating eligibility for the low-risk subcategory, these emission reductions could change to 7,600 Mg/yr (8,400 tons/yr) for CO and 5,300 Mg/yr (5,900 tons/yr) for PM_{10}.

Combustion of exhaust gases in an RTO generates some emissions of nitrogen oxides (NO_X). We estimate that the nationwide increase in NO_X emissions due to the use of RTO will be about 2,100 Mg/yr (2,400 tons/yr). This estimated increase in NO_X emissions may be an overestimate because some plants may select control technologies other than RTO to comply with today's final rule. Depending on the number of facilities eventually demonstrating eligibility for the low-risk subcategory, the estimated NO_X emission increase could fall to 1,100 Mg/yr (1,200 tons/yr).

Secondary air impacts of today's final rule could result from increased electricity usage associated with operation of control devices. The secondary air emissions of NO_X, CO, PM_{10}, sulfur dioxide (SO_2) depend on the fuel used to generate electricity and on other factors. The EPA believes SO_2 emissions may not increase from electric generation since that the requirements of

the Acid Rain trading program will keep power plants from increasing their SO_2 emissions. Furthermore, we believe that NOx emissions increases from power plants may be limited. The EPA expects the emissions trading program that is part of the NOx SIP call will likely keep NOx emissions in the eastern United States from increasing as result of additional power generation to operate RTOs.

C. What are the water quality impacts?

Wastewater is produced from WESP blowdown, washing out of RTO, and biofilters. We based all of our impact estimates on the use of RTO (with or without a WESP upstream depending on the process unit). We estimate that the wastewater generated from WESP blowdown and RTO washouts will increase by about 100,000 cubic meters per year (m^3/yr) (27 million gallons per year (gal/yr)) as a result of today's final rule. Depending on the number of facilities eventually demonstrating eligibility for the low-risk subcategory, the wastewater impacts could fall to 90,000 cubic meters per year (m^3/yr) (24 million gallons per year (gal/yr)). According to the data in our MACT survey, this nationwide increase in wastewater flow is within the range of water flow rates handled by individual facilities. Facilities would likely dispose

of this wastewater by sending it to a municipal treatment facility, reusing it onsite (e.g., in log vats or resin mix), or hauling it offsite for spray irrigation. In addition, we are amending the effluent limitations, guidelines for the timber products processing point source category to allow facilities (on a case-by-case basis) to obtain a permit to discharge wastewaters from APCD installed to comply with today's final rule.

D. What are the solid waste impacts?

Solid waste is produced in the form of solids from WESP and by RTO or RCO media replacement. We estimate that 4,500 Mg/yr (4,900 tons/yr) of solid waste will be generated as a result of today's final rule. Depending on the number of facilities eventually demonstrating eligibility for the low-risk subcategory, the solid waste increase could change to 2,800 Mg/yr (3,000 tons/yr). Some PCWP facilities have been able to use RTO or RCO media as aggregate in onsite roadbeds. Some facilities have also been able to identify a beneficial reuse for wet control device solids (such as giving them away to local farmers for soil amendment).

E. What are the energy impacts?

The overall energy demand (i.e., electricity and

natural gas) is expected to increase by about 4.3 million gigajoules per year (GJ/yr) (4.1 trillion British thermal units per year (Btu/yr)) nationwide under today's final rule. The estimated increase in the energy demand is based on the electricity requirements associated with RTO and WESP and the fuel requirements associated with RTO. Electricity requirements are expected to increase by about 711 gigawatt hours per year (GWh/yr) under today's final rule. Natural gas requirements are expected to increase by about of 44 million m^3/yr (1.5 billion cubic feet per year (ft^3/yr)) under the final rule. Depending on the number of facilities eventually demonstrating eligibility for the low-risk subcategory, these energy estimates could fall to 2.3 million GJ/yr (2.2 trillion Btu/yr) for overall energy demand, 378 GWh/yr for the increase in electricity requirements, and 23 million m^3/yr (0.8 billion ft^3/yr) for the increase in natural gas requirements.

F. What are the cost impacts?

The cost impacts estimated for today's final rule represent a high-end estimate of costs. Although the use of RTO technology to reduce HAP emissions represents the most expensive compliance option, we based our nationwide

cost estimates on the use of RTO technology at all of the impacted facilities because: (1) RTO technology can be used to reduce emissions from all types of PCWP process units; and (2) we could not accurately predict which facilities would use emissions averaging or PBCO or install add-on control devices that are less costly to operate, such as RCO and biofilters. Therefore, our cost estimates are likely to be overstated as we anticipate that owners and operators of impacted sources will take advantage of available cost saving opportunities.

The high-end estimated total capital costs of today's final rule are $471 million. Depending on the number of facilities eventually demonstrating eligibility for the low-risk subcategory, the capital costs could fall to $240 million. These capital costs apply to existing sources and include the costs to purchase and install both the RTO equipment (and in some cases, a WESP upstream of the RTO) and the monitoring equipment, and the costs of performance tests. Wood products enclosure costs are also included for reconstituted wood products presses.

The high-end estimated annualized costs of the final standards are $140 million. Depending on the number of

facilities eventually demonstrating eligibility for the low-risk subcategory, the annualized costs could fall to $74 million. The annualized costs account for the annualized capital costs of the control and monitoring equipment, operation and maintenance expenses, and recordkeeping and reporting costs. Potential control device cost savings and increased recordkeeping and reporting costs associated with the emissions averaging provisions in today's final rule are not accounted for in either the capital or annualized cost estimates.

G. What are the economic impacts?

The economic impact analysis shows that the expected price increases for affected output would range from 0.4 to 1.3 percent as a result of the NESHAP for PCWP manufacturers. The expected change in production of affected output is a reduction of 0.06 to 0.4 percent for PCWP manufacturers as a result of today's final rule. No plant closures are expected out of the 223 facilities affected by the final rule. Therefore, it is likely that there is no adverse impact expected to occur for those industries that produce output affected by the final rule, such as hardboard, softwood plywood and veneer, engineered wood products, and other wood composites.

H. What are the social costs and benefits?

Our assessment of costs and benefits of today's final rule is detailed in the "Regulatory Impact Analysis for the Proposed Plywood and Composite Wood Products MACT." The Regulatory Impact Analysis (RIA) is located in Docket number A-98-44 and Docket number OAR-2003-0048.

It is estimated that 3 years after implementation of the final rule requirements, reductions of formaldehyde, acetaldehyde, acrolein, methanol, phenol and several other HAP from existing PCWP emission sources would be 5,900 Mg/yr (6,600 tons/yr) to 9,900 Mg/yr (11,000 tons/yr), depending on how many affected sources are in the low-risk subcategory. The health effects associated with these HAP are discussed earlier in this preamble.

At this time, we are unable to provide a comprehensive quantification and monetization of the HAP-related benefits of the final rule. Nevertheless, it is possible to derive rough estimates for one of the more important benefit categories, i.e., the potential number of cancer cases avoided and cancer risk reduced as a result of the imposition of the MACT level of control on this source category. Our analysis suggests that imposition of the

MACT level of control would reduce cancer cases by less than one case per year, on average, starting some years after implementation of the standards. We present these results in the RIA. This risk reduction estimate is uncertain and should be regarded as an extremely rough estimate and should be viewed in the context of the full spectrum of unquantified noncancer effects associated with the HAP reductions.

The control technologies used to reduce the level of HAP emitted from PCWP sources are also expected to reduce emissions of CO, PM_{10}, and VOC. Depending on how many affected sources are in the low-risk subcategory, it is estimated that CO emissions reductions total approximately 7,600 Mg/yr (8,400 tons/yr) to 9,500 Mg/yr (10,000 tons/yr), PM_{10} emissions reductions total approximately 5,300 Mg/yr (5,900 tons/yr) to 11,000 Mg/yr (12,000 tons/yr) , and VOC emissions reductions (approximated as THC) total approximately 13,000 Mg/yr (14,000 tons/yr) to 25,000 Mg/yr (27,000 tons/yr). These estimated reductions occur from existing sources in operation 3 years after the implementation of the requirements of the final rule and are expected to continue throughout the life of the sources. Human

health effects associated with exposure to CO include cardiovascular system and CNS effects, which are directly related to reduced oxygen content of blood and which can result in modification of visual perception, hearing, motor and sensorimotor performance, vigilance, and cognitive ability. The VOC emissions reductions may lead to some reduction in ozone concentrations in areas in which the affected sources are located. There are both human health and welfare effects that result from exposure to ozone, and these effects are listed in Table 3 of this preamble.

TABLE 3. UNQUANTIFIED BENEFIT CATEGORIES FROM HAP, OZONE-RELATED, AND PM EMISSIONS REDUCTIONS

	Unquantified Effect Categories Associated with HAP	**Unquantified Effect Categories Associated with Ozone**	**Unquantified Effect Categories Associated with PM**
Health Categories	Carcinogenicity Genotoxicity Pulmonary function decrement Dermal irritation Eye irritation Neurotoxicity Immunotoxicity Pulmonary function decrement Liver effects Gastrointestinal effects Kidney effects Cardiovascular impairment Hematopoietic (Blood disorders) Reproductive/Developmental effects	Airway responsiveness Pulmonary inflammation Increased susceptibility to respiratory infection Acute inflammation and respiratory cell damage Chronic respiratory damage/Premature aging of lungs Emergency room visits for asthma Hospital admissions for respiratory diseases Asthma attacks Minor restricted activity days	Premature mortality Chronic bronchitis Hospital admissions for chronic obstructive pulmonary disease, pneumonia, cardiovascular diseases, and asthma Changes in pulmonary function Morphological changes Altered host defense mechanisms Cancer Other chronic respiratory disease Emergency room visits for asthma Lower and upper respiratory symptoms Acute bronchitis Shortness of breath Minor restricted activity days Asthma attacks Work loss days

Welfare Categories	Corrosion/Deterioration Unpleasant odors Transportation safety concerns Yield reductions/Foliar injury Biomass decrease Species richness decline Species diversity decline Community size decrease Organism lifespan decrease Trophic web shortening	Ecosystem and vegetation effects in Class I areas (e.g., national parks) Damage to urban ornamentals (e.g.,grass, flowers, shrubs, and trees in urban areas) Commercial field crops Fruit and vegetable crops Reduced yields of tree seedlings, commercial and non-commercial forests Damage to ecosystems Materials damage Reduced worker productivity	Materials damage Damage to ecosystems (e.g., acid sulfate deposition) Nitrates in drinking water

At the present time, we cannot provide a monetary estimate for the benefits associated with the reductions in CO. We also did not provide a monetary estimate for the benefits associated with the changes in ozone concentrations that result from the VOC emissions reductions since we are unable to do the necessary air quality modeling to estimate the ozone concentration changes. For PM_{10}, we did not provide a monetary estimate for the benefits associated with the reduction of the emissions, although these reductions are likely to have significant health benefits to populations living in the vicinity of affected sources.

There may be increases in NO_X emissions associated

with today's final rule as a result of increased use of incineration-based controls. These NO_X emission increases by themselves could cause some increase in ozone and particulate matter (PM) concentrations, which could lead to impacts on human health and welfare as listed in Table 3 of this preamble. The potential impacts associated with increases in ambient PM and ozone due to these emission increases are discussed in the RIA. In addition to potential NO_X increases at affected sources, today's final rule may also result in additional electricity use at affected sources due to application of controls. As such, the final rule may result in additional health impacts from increased ambient PM and ozone from these increased utility emissions. We did not quantify or monetize these health impacts.

Every benefit-cost analysis examining the potential effects of a change in environmental protection requirements is limited to some extent by data gaps, limitations in model capabilities (such as geographic coverage), and uncertainties in the underlying scientific and economic studies used to configure the benefit and cost models. Deficiencies in the scientific literature often result in the inability to estimate changes in

health and environmental effects. Deficiencies in the economics literature often result in the inability to assign economic values even to those health and environmental outcomes which can be quantified. These general uncertainties in the underlying scientific and economics literatures are discussed in detail in the RIA and its supporting documents and references.

In determining the overall economic consequences of the final rule, it is essential to consider not only the costs and benefits expressed in dollar terms but also those benefits and costs that we could not quantify. A full listing of the benefit categories that could not be quantified or monetized in our analysis is provided in Table 3 of this preamble.

IV. Summary of Responses to Major Comments and Changes to the Plywood and Composite Wood Products NESHAP

We proposed the PCWP NESHAP on January 9, 2003 (68 FR 1276), and received 57 comment letters on the proposal during the comment period. In response to the public comments received on the proposed rule, we made several changes in developing today's final rule. Table 4 of this preamble provides a list of the major changes that we made to the final rule. The major comments and our

responses are summarized in the following sections. A complete summary of the comments received during the comment period and responses thereto can be found in the background information document (BID) for the promulgated rule, which is available from several sources (see **SUPPLEMENTARY INFORMATION** section).

TABLE 4. SUMMARY OF MAJOR CHANGES TO SUBPART DDDD OF PART 63

Proposed Section	Final Section	Change from Proposal
§63.2231	§63.2231	Revised section to state that subpart DDDD does not apply to facilities that are part of the low-risk subcategory of PCWP manufacturing facilities
§63.2232(b)	§63.2232(b)	Description of affected source revised to be consistent with revised definition
§63.2240	§63.2240	Clarified application of compliance options to a single process unit
§63.2240(a)	§63.2240(a)	Added wet control device to the list of devices that may not be used to meet the PBCO
§63.2240(b)	§63.2240(b)	Changed press enclosure reference from “PTE” to “wood products enclosure”
§63.2240(c)(1)	§63.2240(c)(1)	Revised definition of AMR and $OCEP_i$ in emissions averaging calculations to clarify that sources can receive partial credits from debit-generating process units that are undercontrolled; revised definition of CD_i to address test method for biological treatment units that do not meet the definition of biofilter

§63.2240(c)(2)(iii)	§63.2240(c)(2)(iii)	Revised restriction on emissions average related to process units that are already controlled.
—	§63.2241(c)	Added new section that exempts dry rotary dryers, hardwood veneer dryers, and veneer redryers from work practice requirements if they comply with more stringent standards in §63.2240
§63.2250(a)	§63.2250(a)	Revised section to clarify that SSM refers to both process unit and control device SSM
§63.2250(d)	§63.2250(a)	Moved and revised section to consolidate explanation of SSM provisions
—	§63.2250(d)	Added specific example of a shutdown for direct-fired burners and a specific example of a startup for direct-fired softwood veneer dryers
§63.2250(e)	—	Removed requirement to record control device maintenance schedule
§63.2250(f)	—	Removed requirement to maintain and operate catalyst according to manufacturer’s specifications
§63.2251(a)	§63.2251(a)	Added partial list of events eligible for a routine control device exemption; clarified duty to minimize emissions
§63.2251(b)(1)	§63.2251(b)(1)	Specified type of strand dryer controlled by a control device eligible for a routine control device maintenance exemption of 3 percent of annual uptime
§63.2251(b)(2)	§63.2251(b)(2)	Added conveyor strand dryer to list of process units controlled by a control device eligible for a routine control device maintenance exemption of 0.5 percent of annual uptime

§63.2251(e)	§63.2251(e)	Removed requirement to schedule control device maintenance at the beginning of each semi-annual period
§63.2260(a)	§63.2260(a)	Expanded exemption from testing and monitoring requirements to all combustion units that introduce process unit exhaust into the flame zone.
§63.2262(d)	§63.2262(d)(1) §63.2262(d)(2)	Added sampling location requirements for control devices in sequence, process units with no control device, and process units with a wet control device
§63.2262(g)	§63.2262(g)(1)	Reworded and renumbered section to allow for one case in which non-detect data is not considered to be one-half the method detection limit
—	§63.2262(g)(2)	Added exception to requirement to treat non-detect data as one-half the detection limit
§63.2262(k)(1)	§63.2262(k)(1)	Clarified requirements for establishing the minimum firebox temperature for thermal oxidizers
§63.2262(k)(2) §63.2262(k)(3)	— —	Removed sections on establishing operating parameter limits for static pressure and stack gas flow for thermal oxidizers
§63.2262(k)(4)	§63.2262(k)(2)	Removed references to static pressure and gas flow rate operating parameters
§63.2262(k)(5)	§63.2262(k)(3)	Revised eligibility criteria for exemptions from performance testing and operating requirements for thermal oxidizers
§63.2262(l)(1)	§63.2262(l)(1)	Clarified requirements for establishing the minimum catalytic oxidizer temperature
§63.2262(l)(2) §63.2262(l)(3)	— —	Removed sections on establishing operating parameter limits for static pressure and stack gas flow for catalytic oxidizers

§63.2262(l)(4)	§63.2262(l)(2)	Removed references to static pressure and gas flow rate operating parameters
§63.2262(m)(1) §63.2262(m)(2)	§63.2262(m)(1) §63.2262(m)(2)	Revised requirements for establishing biofilter operating limits (temperature range)
§63.2262(n)(1)	§63.2262(n)(1)	Revised monitoring requirements for process units that meet compliance options without the use of an add-on control device
§63.2267	§63.2267	Added initial compliance criteria for a wood products enclosure
—	§63.2268	Added criteria for demonstration of initial compliance for a wet control device
§63.2268(a)(1)	§63.2269(a)(1)	Revised continuous parameter monitoring system requirements
§63.2268(a)(3) §63.2268(a)(4)	§63.2270(d) §63.2270(e)	Revised and moved sections regarding determination of block averages and valid data to section on continuous compliance requirements
§63.2268(b)(2) §63.2268(b)(3)	§63.2269(b)(2) §63.2268(b)(3)	Clarified temperature measurement requirements
§63.2268(c) §63.2268(d) §63.2268(e)	—	Removed sections regarding pH, pressure, and flow monitoring
§63.2268(f)(1) §63.2268(f)(2)	§63.2269(c)(1) §63.2269(c)(2)	Revised requirements for wood moisture monitoring
—	§63.2269(c)(5)	Added equation for converting moisture measurements from wet basis to dry basis

§63.2270(c)	§63.2270(c)	Added language to specify that data recorded during periods of SSM may not be used in data averages and calculations used to report emission or operating levels
—	§63.2270(f)	Added requirement that 75 percent of readings recorded and included in block averages must be based on valid data
§63.2280(f)(6)	§63.2280(f)(6)	Revised EAP submission requirements to include information on debit-generating process units
—	§63.2282(e)	Added requirement to keep records of annual catalyst activity checks and subsequent corrective actions for catalytic oxidizers
§63.2291	§63.2291	Revised section to state that EPA retains authority to review eligibility demonstrations for the low-risk subcategory
—	§63.2292	Added definitions of “agricultural fiber,” “combustion unit,” “conveyor strand dryer,” “conveyor strand dryer zone,” “flame zone,” “group 1 miscellaneous coating operations,” “non-HAP coating,” “one-hour period,” “partial wood products enclosure,” “primary tube dryer,” “rotary strand dryer,” “secondary tube dryer,” “wet control device,” and “wood products enclosure”
§63.2292	—	Removed definitions of “permanent total enclosure,” “plant site,” and “strand dryer”

§63.2292	§63.2292	Revised definitions of “affected source,” “biofilter,” “deviation,” “fiber,” fiberboard,” “hardboard,” “medium density fiberboard,” “miscellaneous coating operations,” “particle,” “particleboard,” “plywood and composite wood products (PCWP) manufacturing facility,” “softwood veneer dryer,” and “thermal oxidizer”
Table 1A	Table 1A	Changed “tube dryers” to “primary tube dryers” and added “secondary tube dryers”; added PBCO limit for secondary tube dryers; revised PBCO limit for reconstituted wood product board coolers; changed “strand dryers” to “rotary strand dryers”
Table 1B	Table 1B	Added “rotary strand dryers,” “conveyor strand dryer zone one (at existing affected sources),” and “conveyor strand dryer zones one and two (at new affected sources)” to the list of process units
Table 2, Line 1	Table 2, Line 1	Reduced thermal oxidizer operating requirements to maintaining the average firebox temperature above the minimum temperature
Table 2, Line 2	Table 2, Line 2	Reduced catalytic oxidizer operating requirements to maintaining the temperature above a minimum temperature and checking the activity level of a representative sample of the catalyst every 12 months
Table 2, Line 3	Table 2, Line 3	Reduced biofilter operating requirements to maintaining the biofilter bed temperature within a range
Table 2, Line 5	Table 2, Line 5	Revised operating requirements for process units without control devices

—	Table 3, Line 5	Added work practice requirements for group 1 miscellaneous coating operations
Table 4, Line 9	Table 4, Line 9	Revised the performance test criteria for reconstituted wood product presses and reconstituted wood product board coolers
Table 4, Line 11	Table 4, Line 11	Revised text to clarify that performance test requirements apply to all process units in an emissions average plan
Table 5, Line 7	Table 5, Line 7	Removed minimum heat input capacity criterion for combustion units
—	Table 5, Line 8	Added criteria for performance testing and initial compliance demonstrations for wet control devices
—	Table 6, Line 5	Added initial compliance demonstration for Group 1 miscellaneous coating operations
Table 7, Line 1	Table 7, Line 1	Revised “at or above the maximum, at or below the minimum” to read “at or above the minimum, at or below the maximum”
—	Table 7, Line 3	Added continuous compliance requirements (periodic testing) for biofilters
—	Table 7, Line 4	Added continuous compliance requirements (annual catalyst activity check) for catalytic oxidizers
—	Table 7, Line 5	Added continuous compliance requirements for process units achieving compliance without an add-on control device
Table 8, Line 1	Table 8, Line 1	Specified block averages of 24 hours for moisture and temperature measurements for dry rotary dryers

Table 8, Line 4	Table 8, Line 4	Specified block average of 24 hours for moisture measurements for veneer dryers
—	Table 8, Line 5	Added continuous compliance requirements for Group 1 miscellaneous coating operations
Table 10, §63.8(g)	Table 10, §63.8(g)	Added “rounding of data” to description of the General Provisions section
Appendix A to Subpart DDDD	Appendix A to Subpart DDDD	Made various revisions throughout to reflect the removal of a permanent total enclosure (PTE) as a requirement for reconstituted wood products presses and board coolers
—	Appendix B to Subpart DDDD	Added appendix B to specify procedure for demonstrating that a affected source is part of the low-risk subcategory

A. Applicability

1. Definition of Affected Source

Comment: Several commenters requested that we clarify that the PCWP affected source includes refining and resin preparation activities such as mixing, formulating, blending, and chemical storage, and suggested that boilers be excluded. The commenters wanted to ensure that onsite resin preparation activities are specifically mentioned in and regulated by the final PCWP rule to avoid duplicate regulation of those activities under the Miscellaneous Organic Chemical Manufacturing NESHAP (subpart FFFF) or the Miscellaneous Coating Manufacturing

NESHAP (subpart HHHHH). Commenters also recommended changing the proposed definition of affected source by revising the definition of “plant site,” which was used in the affected source definition at proposal. The commenters asked that we make the definition of “plant site” consistent with the definition of “major source” as defined for title V permitting in 40 CFR 70.2. According to the commenters, the proposed definition of “plant site” expanded the definition of a source beyond that used for title V permitting or MACT applicability in general.

Response: We agree with the commenters that changes should be made to the definition of affected source, and the definition was adjusted in the final rule. We added resin preparation activities to the definition of “affected source” to clarify that these activities are part of the PCWP source category and are not subject to subpart FFFF to 40 CFR part 63 or subpart HHHHH to 40 CFR part 63. Resin preparation includes any mixing, blending, or diluting of resins used in the manufacture of PCWP products which occurs at the PCWP manufacturing facility. We feel this change is appropriate because the MACT analysis for resin preparation activities was

conducted under the PCWP final rulemaking. (As explained in the proposal BID and supporting documentation, we determined that MACT for new and existing blenders and resin storage/mixing tanks is no emissions reductions.) Subpart FFFF to 40 CFR part 63 and subpart HHHHH to 40 CFR part 63 exclude activities included as part of the affected source for other source categories. Thus, onsite resin preparation activities at a PCWP manufacturing facility are not subject to subpart FFFF to 40 CFR part 63 or subpart HHHHH to 40 CFR part 63.

We added refiners to the definition of affected source to clarify that these sources are part of the affected source and were part of the MACT analysis for the PCWP source category. (For new and existing pressurized refiners, we determined that MACT is based on the use of incineration-based control or a biofilter, and for new and existing atmospheric refiners, we determined that MACT is no emissions reductions.)

We removed all references to “plant site” from the final rule and replaced references to “plant site” with the term “facility” to eliminate confusion regarding which emission sources constitute the affected source and which emission sources would be considered when making a

major source determination. The term “plant site” was used only in the proposed definitions of “affected source” and “plywood and composite wood products manufacturing facility.” Inclusion of the term “plant site” in the proposed definition of affected source unintentionally broadened the definition such that emission sources not related to PCWP manufacturing could be construed as being part of the affected source. For example, under the proposed definitions of “affected source” and “plant site,” if a company operated both a PCWP manufacturing facility and a wood building products surface coating facility at the same site, both operations might be considered to be part of the PCWP affected source because the “plant site” would encompass both operations, even though these two operations are regulated under separate NESHAP. We removed the term “plant site” from the final rule to clarify that the requirements in the final rule would only apply to the affected source, which is the PCWP manufacturing facility. However, we note that any major source determination would be based on total emissions from both operations since the two operations are colocated and under common control. (See definition of major source in

the General Provisions (40 CFR part 63, subpart A).)

We did not incorporate the commenters' suggestion to specifically exclude boilers from the definition of "affected source" because it is possible for a boiler to be subject to both the PCWP NESHAP and the Industrial/Commercial/Institutional Boilers and Process Heaters NESHAP (e.g., if a portion of the boiler exhaust is used to direct fire dryers while the remaining portion of the boiler exhaust is vented to the atmosphere). However, in most cases, combustion units would only be subject to one MACT. The overlap between the PCWP NESHAP and the Industrial/Commercial/Institutional Boilers and Process Heaters NESHAP is also discussed in this preamble.

2. Process Definitions

Comment: Commenters recommended that a number of definitions included in the proposed rule be revised to better distinguish between particleboard, MDF and hardboard and/or to be consistent with definitions developed by the American National Standards Institute (ANSI).

Response: We made changes to several of the proposed process-related definitions including the definitions of

particle, fiber, hardboard, MDF, and particleboard. These minor changes incorporate some of the wording in similar definitions used by ANSI but do not affect the scope or applicability of the final rule. We also added a definition of agricultural fiber recommended by commenters because the term “agricultural fiber” appears in the definition of plywood and composite wood products facility.

Comment: Several commenters requested that the proposed definition of tube dryer be changed so that stages in multistage tube dryers would be considered as separate tube dryers. With this change, different control options could be applied to different dryer stages.

Response: Under the proposed definition of tube dryer, a multistage tube dryer with more than one control device and emissions point would be considered one process unit. In developing the proposed rule, we noted that the function of tube dryers is the same regardless of single- or multistage configuration and that distinguishing between dryer configurations would not change the results of the MACT floor analysis, despite the fact that the majority of the HAP emissions exhaust

from the primary stage. Therefore, we made no distinction between single-stage and multistage tube dryers at proposal. However, we agree with the commenters that defining the stages of multistage tube dryers separately would allow facilities the flexibility of choosing different compliance options for each stage of the tube dryer, and we have included separate definitions of primary tube dryer and secondary tube dryer in the final rule. The MACT floor for both primary tube dryers and secondary tube dryers is the same (e.g., 90 percent reduction in emissions), but facilities may choose different control options for the primary and secondary tube dryers. For example, a facility with a multistage tube dryer could use an add-on control device to reduce emissions from the primary tube dryer only and then use emissions averaging to offset the uncontrolled emissions from the secondary tube dryer.

3. Lumber Kilns

Comment: We received comments from representatives of sawmills and wood treating facilities disagreeing with the inclusion of lumber kilns in the PCWP source category. The commenters stated that owners and operators of kilns that are not located at a PCWP

facility may be subject to other requirements of the rule, as proposed, that do not truly apply to them, including costly monitoring, recordkeeping, and reporting. One commenter was concerned that the owners and operators of non-colocated lumber kilns could find themselves in violation of the May 15, 2002, case-by-case "MACT Hammer" deadline even though they did not anticipate being included in the rule, as proposed, and thus did not apply for the case-by-case consideration.

Response: At proposal, we broadened the PCWP source category to include non-colocated lumber kilns (i.e., lumber kilns located at stand-alone kiln-dried lumber manufacturing facilities or at any other type of facility). In the preamble to the proposed rule, we noted that if non-colocated lumber kilns were not included in the PCWP NESHAP, then kiln-dried lumber manufacturing could be listed as a major source category under section 112(c) of the CAA in the future, requiring a separate CAA section 112(d) rulemaking and potentially becoming separately subject to the provisions of section 112(g) of the CAA as well. We felt it was reasonable to include non-colocated lumber kilns in the PCWP source category because the design and operation of lumber kilns

are essentially the same regardless of whether the kilns are located at a sawmill or are colocated with PCWP or other types of manufacturing operations. At proposal, we noted that there are no currently applicable controls at any lumber kilns and that it would be both more efficient and expeditious to include all lumber kilns in the MACT analysis for the final PCWP rule than to separately address them in a rulemaking that likely would not result in meaningful emissions reductions from lumber kilns. In addition, we noted that including all lumber kilns in the final PCWP MACT results in placing them on a faster schedule for purposes of future residual risk analysis under CAA section 112(f).

In an attempt to better understand the concerns of the commenters, we met with wood products industry representatives who requested that lumber kilns be included in the PCWP source category and with the commenters who disagreed that non-colocated lumber kilns should be included in the PCWP source category. After consideration of concerns expressed by all of the commenters on this issue, we maintain that it is more efficient for EPA, State regulators, and lumber kiln operators for EPA to include all lumber kilns in the

final PCWP NESHAP. Because the MACT floor determination for lumber kilns is no emission reduction (as explained in the proposal preamble), there will not be a significant monitoring, recordkeeping, and reporting burden for facilities with only non-colocated lumber kilns. Only those facilities that are major sources of HAP emissions are subject to the final PCWP NESHAP. Facilities with non-colocated lumber kilns that are classified as major sources of HAP must submit an initial notification form required by the final PCWP NESHAP and the Part 1 "MACT Hammer" application required by section 112(j) of the CAA. We note that both of these forms simply ask the facilities to identify themselves to EPA. We acknowledge that operators of non-colocated lumber kilns were not aware that they were included in the PCWP source category until the proposed PCWP NESHAP was printed in the Federal Register on January 9, 2003, and therefore, would not have known to submit a Part 1 application by May 15, 2002.

4. Regulated HAP

Comment: One commenter objected to the fact that the proposed rule only set standards for six HAP. The commenter asserted that, according to the CAA and

National Lime Ass'n v. EPA, 233 F.3d 625, 633-634 (D.C. Cir. 2000), we are required to set standards for every HAP listed in CAA section 112(b)(1) emitted by PCWP operations, not just the ones that are the easiest to measure. Other commenters disagreed and noted that a requirement that EPA impose an emission standard for every listed HAP, without regard to whether or not there are applicable methods for reducing HAP emissions or whether the MACT floor sources actually use such method, contradicts the plain language of the statute. These commenters contended that the statute specifically frames the inquiry in terms of degrees of reduction.

Response: Today's final PCWP rule contains numerical emission limits in terms of methanol, formaldehyde, THC, or total HAP (which is defined in the final rule as the sum of six HAP including acrolein, acetaldehyde, formaldehyde, methanol, phenol, and propionaldehyde). The nationwide PCWP emissions of total HAP are 18,190 tons/yr, which is 96 percent of the nationwide emissions of all HAP (19,000 tons/yr) emitted by PCWP facilities. The six HAP that comprise total HAP are found in emissions from all PCWP product sectors that contain major sources and in emissions from most process units.

At proposal, when we stated that other HAP are emitted "in low quantities that may be difficult to measure," we were referring to HAP that are often emitted at levels below test method detection limits (68 FR 1276, January 9, 2003). Our data clearly show that these other HAP are difficult or impossible to measure because they are either emitted in very low quantities or are not present. Such low quantities are not detectable by the applicable emission testing procedures (which are sensitive enough to detect HAP at concentrations below 1 part per million (ppm)). Many of these other HAP were detected in less than 15 percent of test runs, or for only one type of process unit.

Based on our emissions data, we determined that methanol, formaldehyde, THC, or total HAP are appropriate surrogates for measuring all organic HAP measurably-emitted by the PCWP source category. The PBCO and emissions averaging compliance options in today's final PCWP rule are based on total HAP. Review of the emission factors used to develop the emissions estimates for the PCWP source category indicates that uncontrolled emissions of HAP (other than the six HAP) are always lower than emissions of the six HAP for every process

unit with MACT control requirements. Thus, process units meeting the PBCO based on total HAP also would have low emissions of other organic HAP. The emissions averaging provisions and add-on control device compliance options involve use of add-on APCD. The available data show that a reduction in one predominant HAP (or THC) correlates with a reduction in other HAP if the other HAP is present in detectable quantities and at sufficient concentration. The data also show that the mechanisms in RTO, RCO, and biofilters that reduce emissions of formaldehyde and methanol reduce emissions of the remaining HAP. In addition, an analysis of the physical properties of the organic HAP emitted from PCWP processes indicates that nearly all of the HAP would be combusted at normal thermal oxidizer operating temperatures. Today's standards are based on the use of add-on control devices because the available emissions data do not reveal any process variables that could be manipulated (without altering the product) to achieve a quantifiable reduction in emissions. Furthermore, nothing in the data suggests that process variables could be manipulated in a way that would alter the relationship between formaldehyde and methanol reduction and reduction of other HAP. We

determined that it is appropriate for the final PCWP rule to contain compliance options in terms of total HAP, THC, formaldehyde, or methanol because the same measures used to reduce emissions of these pollutants also reduce emissions of other organic HAP.

B. Overlap with Other Rules

1. Overlap with Industrial/Commercial/Institutional Boilers and Process Heaters NESHAP

Comment: Commenters expressed support for our proposal to regulate emissions from combustion units used to direct fire dryers and to exclude these emissions from the requirements of the Industrial/Commercial/Institutional Boilers and Process Heaters NESHAP. However, the commenters expressed concern about potential NESHAP applicability questions that could arise during short periods when the exhaust gases from these combustion units are not exhausting through the dryers and would bypass any controls applied to these dryers. The commenters noted that in some of the combustion units associated with direct-fired dryers, a small percentage of combustion gas is routed to indirect heat exchange and then is normally and predominantly routed to direct-fired gas flow. According

to the commenters, in these hybrid units, typically only a small fraction of combustion gas (e.g., less than 10 percent of total capacity) is routed to indirect heat exchange for hot oil/steam generation. This fraction of the combustion unit exhaust then generally exhausts through the direct-fired dryers and the emissions are treated by the add-on control device at the dryers' outlet. However, under certain circumstances (e.g., during startups, shutdowns, emergencies, or periods when dryers are down for maintenance but steam/thermal oil is still needed for plant and/or press heat), some systems may exhaust directly to the atmosphere without passing through the direct-fired dryers and the associated control systems. The commenters recommended that this small subset of combustion units be assigned a primary purpose (based on the predominant allocation of British thermal units per hour (Btu/hr) capacity and/or predominant mode of operation) and regulated accordingly. In the above example, the commenters assumed that the primary purpose is as a direct-fired dryer, such that the equipment would be subject to the final PCWP MACT and not to the Industrial/Commercial/Institutional Boilers and Process Heaters NESHAP.

Response: In considering the commenters' request, we reviewed available information on direct-fired dryers and the associated combustion units at PCWP facilities. The available information indicates that there are many configurations of combustion units, dryers, and thermal oil heaters in the PCWP industry. While some systems have the hybrid configurations described by the commenters whereby a portion of the combustion gas is routed to indirect heat exchange, other systems retain all of the combustion gas within the direct-fired system. We do not have sufficient information (and no such information was provided by the commenters) to fully evaluate the need for a primary purpose designation for PCWP combustion units, to establish the percentage-of-operating-time or British thermal unit (Btu) limits for such a primary purpose designation, or to determine MACT for combustion units that would meet the primary purpose designation. For example, we do not know how many combustion units are configured to incorporate both indirect and direct heat exchange, and for these units we do not know the amount of time or the percentage of Btu allocation that is devoted to indirect heat exchange or the controls used to reduce emissions during indirect

heat exchange. We expect that all of these factors vary substantially from facility to facility for those facilities that have these hybrid combustion units. We also lack information on the emissions reduction techniques (e.g., control devices) applied to combustion units associated with direct-fired PCWP dryers that may bypass the dryers for some unknown percentage of time. Therefore, we feel it would be inappropriate for us to establish a primary purpose designation which could inadvertently allow facilities to configure their systems to direct a portion of their uncontrolled emissions to the atmosphere without these emissions' being subject to the Industrial/Commercial/Institutional Boilers and Process Heaters NESHAP. Also, we wish to clarify that the final PCWP rule regulates only that portion of emissions from a combustion unit that are routed through the direct-fired dryers. Any emissions from a combustion unit that are not routed through the direct-fired dryers would be subject to the Industrial/Commercial/Institutional Boilers and Process Heaters NESHAP. Therefore, if the emissions from a combustion unit are split such that only a portion of the emissions are routed through a direct-fired dryer, then

the combustion unit would be subject to both rules.

For those occasions when a facility must shut down its direct-fired dryers but still wants to operate the combustion unit to heat oil for the press, the facility could propose in its startup, shutdown, and malfunction (SSM) plan to route exhaust through the thermal oil heater (and then to the atmosphere) during these periods. The permitting authority would then decide on a facility-specific basis if heating of the thermal oil heater (and the associated uncontrolled emissions) should be allowed during dryer SSM considering the amount of time that this condition occurs, the fraction of combustion unit Btu used to heat the thermal oil heater, and the type of control used to reduce combustion unit emissions.

2. Overlap with Wood Building Products (WBP) NESHAP

Comment: Commenters on the proposed Wood Building Products (Surface Coating) rule (subpart QQQQ to 40 CFR part 63) asserted that neither asphalt-coated fiberboard nor ceiling tiles are coated with HAP-containing materials and that regulating such products would be burdensome. These commenters requested that we include asphalt coating of fiberboard and ceiling tiles in today’s final PCWP rule by including these coating

operations under the definition of miscellaneous coating operations (for which the proposed MACT was no emissions reductions), so that these operations would be subject to the final PCWP rule and not the WBP rule, as proposed.

Response: In the proposed rule, we addressed overlap between the WBP and PCWP NESHAP by including specific surface coating activities (which occur onsite at a PCWP manufacturing facility) in the definition of "miscellaneous coating operations." Inclusion of these activities in the definition of miscellaneous coating operations means that these activities are subject to the final PCWP rule and not to the WBP rule, as proposed. We made changes to the definition of miscellaneous coating operations in today's final rule in response to the public comments we received on the proposed WBP rule relating to asphalt-coated fiberboard and ceiling tiles.

We evaluated the types of coatings and processes used to make asphalt-coated fiberboard and found that only a few facilities in the United States make these products, with varying manufacturing and coating processes. An asphalt emulsion can be added during the fiberboard forming process, or asphalt can be applied to the fiberboard substrate. Information we collected on

asphalt coatings suggests that they contain no HAP. Depending on the company and the process, the coating can be applied before or after the final dryer with the product allowed to air dry. Ceiling tiles are usually coated using non-HAP slurries of titanium dioxide and various clays, and no organic solvents are used. Most of the coatings associated with these types of products are applied during the substrate forming process (i.e., to the wet mat being formed) or prior to the final substrate drying operation, fiberboard coating operations (including those used in the manufacture of asphalt-coated fiberboard and ceiling tiles). Because no HAP are contained in the above-mentioned coatings, the coatings are applied as part of the manufacturing process, and MACT for these coating processes is no emissions reductions, we changed the definition of miscellaneous coating operations to include “application of asphalt, clay slurry, or titanium dioxide coatings to fiberboard at the same site of fiberboard manufacture.” These products are not subject to the final WBP surface coating rule.

C. Amendments to the Effluent Guidelines for Timber Products Processing

Comment: Several commenters requested that we address potential conflicts between the PCWP rule as proposed and the effluent guidelines for the Timber Products Processing Point Source Category. These commenters noted that the effluent guidelines state that "there shall be no discharge of process wastewater pollutants into navigable waters." However, according to the commenters, at the time that statement was written, air pollution controls were not common, and EPA was not aware of the large volumes of water that can be produced by APCD. The commenters recommended that we address this issue by revising the effluent guidelines at 40 CFR part 429. Specifically, these commenters asked us to amend the definition of process wastewaters at 40 CFR part 429.11(c) so that the discharge prohibition in 40 CFR part 429 would not apply to wastewaters associated with APCD operation and maintenance when installed to comply with the final PCWP MACT rule. These commenters asserted that effluent limitations for these wastewaters should be developed by permit writers on a case-by-case basis based upon best professional judgment. These commenters noted that the language we included in the preamble to the proposed rule would generally accomplish this purpose

with some minor changes (see 68 FR 1276, January 9, 2003). The commenters also provided rationale and data to support their recommendation. The commenters contended that we: (1) underestimated the volume of wastewater that would be generated by the application of MACT and as a result, underestimated the associated costs of disposing of this wastewater; (2) failed to address the achievability/feasibility of MACT if the discharge of air pollution control wastewaters is prohibited; and (3) did not consider wastewater from air pollution control devices when the Timber Products zero discharge effluent guidelines were originally developed. The commenters submitted several case studies to demonstrate the variability in the volume of wastewater generated at various PCWP facilities and to show how each facility currently recycles, reuses, and disposes of wastewater generated from the operation and maintenance of RTO, WESP and biofilters. The commenters also argued that the available data do not support a conclusion that wastewaters generated from MACT control devices can, with Best Available Technology (BAT), be managed in a way that does not involve a discharge.

Response: At the time we proposed the PCWP rule, we

indicated that we would consider amending the definition of process wastewater in 40 CFR part 429 to exclude those wastewaters generated by APCD operation and maintenance when installed to comply with the proposed PCWP NESHAP. We indicated in the preamble to the proposal that we would amend the definition of process wastewaters if information and data were submitted to support the industry's assertions that PCWP facilities in certain subcategories would not be able consistently to achieve the effluent limitations guidelines and standards applicable to them if they were to comply with the proposed PCWP NESHAP. As part of the PCWP proposal, we described with specificity how we would revise 40 CFR part 429 if we were convinced that such revisions were appropriate and solicited data and information.

Based on the data and information submitted by the commenters, we have concluded that facilities subject to 40 CFR part 429, subpart B (Veneer subcategory), subpart C (Plywood subcategory), subpart D (Dry Process Hardboard subcategory), and subpart M (Particleboard Manufacturing subcategory) are unable to comply consistently with the existing 40 CFR part 429 effluent limitations guidelines and standards, which prohibit the discharge of process

wastewater pollutants, because of the volume of wastewaters generated by APCD that are installed to comply with the final PCWP NESHAP and because the technology basis for those effluent limitations guidelines and standards is insufficient, in light of that wastewater volume and the pollutant content, to achieve the prohibition on process wastewater discharges for these NESHAP-related APCD wastewaters. Therefore, we are excluding from the definition of process wastewaters in 40 CFR 29.11(c) the following wastewaters associated with APCD used by PCWP facilities covered by subparts B, C, D, and M to comply with 40 CFR 63.22: wastewater from washout of thermal oxidizers and catalytic oxidizers, wastewater from biofilters, and wastewater from WESP used upstream of thermal oxidizers or catalytic oxidizers.

In addition, we agree with comments that we will need considerably more data and information to promulgate new effluent limitations guidelines and standards for the process wastewaters at issue today. In particular, we will need information to adequately characterize the quantity and quality of wastewater that would be generated as result of compliance with the MACT standards. The volume and pollutant content of

wastewater generated at these facilities are related to production processes, air pollution control equipment that generate wastewater, the extent of opportunities for internal recycling of wastewater, and the availability of other process uses for wastewater. Until we promulgate effluent limitations guidelines and standards for pollutants in these process wastewaters, Best Practicable Technology (BPT) and BAT effluent limitations should be established on a case-by-case basis under 40 CFR 125.3. Thus, individual facilities seeking a discharge permit will have the opportunity, on a case-by-case basis, to characterize and obtain discharge allowances for their wastewaters from APCD installed to comply with the final PCWP NESHAP. The permit writer would be expected to determine, based upon best professional judgment (BPJ), the appropriate effluent limitations for these APCD wastewaters. (See 40 CFR 125.3.) The permit writer can take into account facility-specific information on wastewater volumes and pollutants, available wastewater control and treatment technologies, costs and effluent reduction benefits, receiving water quality, and any applicable State water quality standards. At a later date, we expect to consider whether to amend the existing

effluent limitations guidelines and standards for the Timber Processing Industry to cover these process wastewaters. Such an effort would involve gathering and analyzing the information and data necessary to establish revised categorical effluent limitations affecting subparts B, C, D, and M of 40 CFR part 429 for these APCD wastewaters generated in complying with the final PCWP NESHAP.

Today's amendment to the final rule is based on regulatory language included in the preamble accompanying the proposed NESHAP for PCWP facilities (68 FR 1276, January 9, 2003). The preamble described the relationship of the proposed MACT rule to the amendment to 40 CFR part 429 under consideration. The preamble explained that the entities affected by the proposed MACT rule would also be affected by the proposed amendment to 40 CFR part 429; presented both the terms and substance of the amendment under consideration; and described the subjects and issues involved. In addition, we solicited comments on whether to amend 40 CFR 429.11(c) and information relevant to that decision. While at that time we indicated that we were considering employing a direct final rule to promulgate any such amendment, we

have concluded with support from commenters that that procedure was unnecessary and instead are taking final action on the amendment today without further process.

D. Existing Source MACT

1. OSB Strand Dryers

Comment: One commenter requested that further consideration be given to the emission standards for low-temperature OSB conveyor strand dryers. The commenter stated that because these conveyor strand dryers emit less HAP than rotary strand dryers and have been recognized as best available control technology (BACT) in Minnesota, they should be exempted from control requirements in the final PCWP rule. The commenter noted that the 12 conveyor strand dryers used by their company have three drying zones, each with its own heating system and exhaust vent(s). When drying hardwoods, no VOC control is required; however, when drying pine the company controls emissions from zones 1 and 2. Zone 3 serves as a final conditioning zone and is exhausted to the atmosphere without need for VOC control. The proposed PCWP rule would have required the sum of the emissions from all three zones to be reduced to MACT levels (e.g., 90 percent reduction).

Response: The MACT analysis we conducted at proposal treated conveyor strand dryers as a separate equipment group from rotary strand dryers. We noted that rotary strand dryers operate at much higher inlet temperatures (e.g., often greater than or equal to 900°F) than conveyor strand dryers (e.g., typically less than 400°F) and that rotary dryers provide greater agitation of the wood strands than conveyor strand dryers. As a result, the emissions from conveyor strand dryers are lower than the emissions from rotary strand dryers. The emissions test data we have for conveyor strand dryers (only formaldehyde and THC data are available) indicate that formaldehyde emissions from conveyor strand dryers are 1 to 2 orders of magnitude lower than for rotary strand dryers. The THC emissions are also lower for conveyor strand dryers than for rotary dryers. Our MACT analysis for conveyor strand dryers at proposal concluded that three of the eight conveyor strand dryers used in the U.S. operated with process incineration. Because there are less than 30 conveyor strand dryers, the MACT floor was based on the control level achieved by the third best-controlled dryer. Thus, at proposal, we determined that the MACT floor control system for new and existing

conveyor strand dryers was the emissions reductions achievable with incineration-based control. We included one definition of “strand dryers” in the proposed PCWP rule since MACT for both rotary and conveyor strand dryers was represented by incineration-based control.

As pointed out by the commenter, conveyor strand dryers have distinct zones, with each zone having its own heating system and exhaust. We reviewed our MACT survey data and learned that all of the conveyor strand dryers in the U.S. have three zones. Upon further scrutiny of the MACT analysis at proposal, we learned that the three conveyor strand dryers that formed the basis for the MACT floor at proposal were routing the emissions from zone 1 only to an onsite combustion unit for incineration. The remaining five conveyor strand dryers have no HAP control. Thus, our conclusions regarding the MACT floor for conveyor strand dryers at proposal were overstated. The third best-controlled conveyor strand dryer has incineration-based control only on zone 1 as opposed to controls on all zones. Therefore, we revised our analysis to reflect that the MACT floor for existing conveyor strand dryers is the emissions reduction achievable with incineration-based control on zone 1. To

implement this change, we added definitions for “conveyor strand dryer” and “conveyor strand dryer zone” to the final rule.

The commenter mentioned operating 12 conveyor strand dryers. Six of these conveyor strand dryers are located at new plants that were not included in our pre-proposal MACT floor analysis. These six conveyor strand dryers route emissions from zones 1 and 2 to a closed-loop incineration system for emissions control. Given that newer facilities are incinerating conveyor strand dryer exhaust from zones 1 and 2, we determined that the MACT floor for conveyor strand dryers at new sources is the emissions reductions achievable with incineration-based control for exhausts from zones 1 and 2.

As described in the promulgation BID and supporting documentation, we determined that the environmental benefit of controlling additional conveyor dryer zones would not justify the cost for existing or new conveyor strand dryers.

2. Wood Products Press Enclosures

Comment: Many commenters argued that EPA Method 204 compliance should not be a part of the PCWP MACT floor for presses because most of the press enclosures that

were described in the industry survey data as having permanent total enclosures (PTE) were never certified by Method 204 criteria. The commenters noted that most of these enclosures were designed according to Method 204 design criteria; however, the permits for these facilities never required them to comply fully with Method 204 certification. The commenters contended that, of the 26 presses identified as having PTE, only 2 had actually undergone Method 204 certification.

The commenters also argued that Method 204 cannot be applied practically to the hot presses that are used at PCWP facilities. The commenters stated that Method 204 was developed for applications where the emissions have consistent properties; however, the temperature and density of emissions from a typical multiple-opening batch wood products press are constantly changing as the press opens and closes, which creates layers of gases with different physical properties within the enclosure. According to the commenters, instead of mixing and exiting the enclosure, the layers of gases can accumulate. The layers of gas in the upper region of the enclosure have a higher temperature and pressure than the air outside the press, and the lower layers of gas have a

lower temperature and pressure than the air outside the press. The commenters maintained that to force the gases outside the enclosure, the operator would have to increase the airflow through the system to a rate that is three to four times higher than would be necessary for an enclosure operating at a homogenous temperature and pressure. The commenters contended that, while many of the wood products presses were designed to follow the Method 204 design criteria, they were not designed to overcome this phenomenon and may not be able to certify that all of the emissions are captured and contained.

The commenters recommended that we address the press capture efficiency issue by implementing work practice requirements for enclosures. The commenters suggested that we replace the proposed definition of PTE with a definition that includes four of the five design criteria found in EPA Method 204, and replaces the requirement that "all VOC emissions must be captured and contained for discharge through a control device" with a requirement that "fugitive emissions shall be minimized through appropriate operation and maintenance procedures applied to the PTE system."

Response: At proposal, we stated that the MACT floor

determination for reconstituted wood products presses was based, in part, on the assumption that a sufficient number of these presses had enclosures that had been certified as PTE according to EPA Method 204. Presses equipped with Method 204 certified PTE would be allowed to claim 100 percent capture efficiency, and thus, the rule requirements (e.g., 90 percent emissions reductions) would effectively apply only to the captured emissions.

Based on our review of available permit information, we agree with the commenters' assessment that few permits have required full Method 204 certification for reconstituted wood products press enclosures, even though many of these press enclosures were constructed based on the Method 204 design criteria. We also agree that the nature of the batch pressing operations in the PCWP industry can make Method 204 certification difficult. Unlike in the printing and publishing industry, for which Method 204 was originally developed, batch PCWP presses are heated, cyclical operations. Because of the internal pressurization within PCWP press enclosures, small amounts of fugitive emissions may appear around the outside of these enclosures. The percentage of press emissions that may be escaping from some of these

enclosures has not been quantified but is expected to be small based on available information. We understand the commenters' concern that, due to the presence of these small amounts of fugitive emissions, facilities cannot certify that their Method 204 designed press enclosure can achieve all the Method 204 criteria, in particular the criteria in Method 204 section 6.2 which states that "All VOC emissions must be captured and contained for discharge through a control device." While we feel that PCWP press enclosures should be designed to capture emissions under normal operating conditions, we do not feel it is necessary for PCWP facilities to increase the flow rate from their press enclosures (and the size of their APCD) three to four times to overcome the pressurization within the press enclosure. For the PCWP industry, we feel it would be particularly inappropriate to require such a large increase in exhaust flow to the APCD because the exhaust flows from PCWP process equipment, including presses, are already high volume, low concentration emission streams. High volume, low concentration exhaust streams generally are more costly to treat than low volume, high concentration emission streams. The best-performing press enclosures that

defined the MACT floor surround heated presses and are all expected to have pressurization within the press enclosure. In addition, we note that board cooler exhaust is sometimes directed into press enclosures and that enclosures around board coolers have not been certified according to EPA Method 204.

Therefore, instead of requiring EPA Method 204 certification of PCWP press and board cooler enclosures as proposed, today's final rule sets forth slightly different criteria for press and board cooler enclosures. These criteria are based on the design criteria for PTE included in EPA Method 204, as recommended by the commenters; however, the criterion to capture and contain all VOC emissions has been replaced with a requirement that the enclosure be "designed and maintained to capture all emissions for discharge through a control device." To effect this change, we removed references to PTE in the final rule and replaced the proposed definition of PTE with a new definition of "wood products enclosure" that lists the design criteria that must be met to comply with MACT. Enclosures that meet the definition of wood products enclosure do not have to test to determine the capture efficiency of these enclosures, but can assume

100 percent capture, such that the control requirements (e.g., 90 percent reduction) apply only to the captured emissions (i.e., the small amount of fugitive emissions outside the enclosure is disregarded).

We also replaced the proposed definition of “partial enclosure” with a slightly revised definition of “partial wood products enclosure” to eliminate any references to PTE in the final rule. Because the capture efficiency of partial wood products enclosures is unknown, today’s final rule requires facilities to test the capture efficiency of partial wood products enclosures using EPA Methods 204 and 204A-F (as appropriate), or using the alternative tracer gas procedure included in appendix A to subpart DDDD of 40 CFR part 63. In addition, facilities have the option of using other methods for determining capture efficiency subject to the approval of the Administrator. As was proposed and suggested by the commenters, today’s final rule requires facilities using partial wood products enclosures to demonstrate a combined 90 percent capture and control efficiency for those facilities showing compliance with the percent reduction requirements for APCD. If the partial wood products enclosure does not achieve high capture

efficiency, then facilities must offset the needed capture efficiency by achieving a higher destruction efficiency or with emissions averaging (with the press being an under-controlled process unit).

Comment: One commenter objected to the proposed MACT floor for continuous presses and questioned the applicability of EPA Method 204 to continuous presses. The commenter requested that we divide continuous and batch presses into two different process unit groups for the purpose of determining the MACT floor. The commenter provided information from environmental engineering firms and press manufacturers regarding the fundamental differences between the two types of presses. The commenter noted that continuous presses are much longer than batch presses, reaching lengths of 200 feet (ft), which makes them difficult to completely enclose. The commenter was unaware of any continuous presses that have Method 204 certified PTE. The commenter stated that enclosing a continuous press would cause operational problems, such as heat build-up and impaired visibility, which can lead to mechanical failures and unscheduled downtime. The commenter also cited potential safety concerns, such as increased fire risk and the possibility

of unhealthy levels of HAP trapped inside the enclosure. The commenter further noted that the capital and operating costs of PTE applied to continuous presses would exceed those associated with batch presses due to the large size of the enclosure and the increased maintenance costs resulting from heat build-up within the enclosure. In addition, the commenter provided VOC emissions data based on measurements made at different points along the length of one of their continuous presses to demonstrate that emissions from the front stages are minimal and that the majority of emissions are from the last 40 percent of the press length, referred to as the “decompression zone.” The commenter contended that gathering the emissions from all stages of the continuous press will result in a more dilute stream, which will be less cost-effective to treat, and that the large volume of exhaust to be treated would likely preclude the use of biofilters, which are more practical for treating smaller volumes of air.

To remedy the situation, the commenter recommended that we divide batch and continuous presses into two different process unit groups for the purpose of determining the MACT floor. Because there are fewer than

30 continuous presses, the MACT floor for existing continuous presses would be determined based on the average emissions limitation achieved by the five best-performing continuous presses. The commenter provided information to support the commenter's contention that none of the continuous presses achieved 100 percent capture and suggested that the MACT floor for capture efficiency is 80 percent capture of emissions from the decompression stages.

Response: As explained in the proposal preamble, we based the MACT floor determinations for PCWP equipment on process units that are similar with respect to design, operation, and emissions. We acknowledge that continuous presses have a different design than multiopening batch presses. However, continuous presses have emissions that are within the same range as those from batch presses on a lb/MSF of board basis. Therefore, we feel it is reasonable to group batch and continuous presses together for purposes of determining the MACT floor. The MACT floor for continuous presses would be the same as the MACT floor for batch presses regardless of whether batch and continuous presses were placed in separate equipment groups. As explained below, we disagree that the MACT

floor capture efficiency for continuous presses is 80 percent, as suggested by the commenter.

The commenter was incorrect in suggesting that there are no continuous presses with Method 204 certified PTE. The two existing press enclosures in the PCWP industry identified as being Method 204 certified surround continuous presses. The lengths of these two continuous presses are 41.5 ft and 110 ft. Due to the presence of these presses plus additional continuous presses equipped with total enclosures not certified via Method 204, the MACT floor for new and existing continuous presses is still a total enclosure and incineration-based control or biofilter, regardless of whether or not batch and continuous presses are treated as separate equipment groups. In addition, there is a Method 204 certified PTE around a 181-ft continuous press at a newer PCWP facility (which was not included in original data collection efforts and the pre-proposal MACT floor determination); however, this press has had some operational problems associated with its PTE. It is not clear if the operational problems experienced by this 181-ft-long press are the result of poor PTE design or inherent technical difficulties associated with enclosing long

continuous PCWP presses.

Long continuous presses are generally being installed at new PCWP facilities, as opposed to being retrofit at existing facilities. Given that there is at least one long continuous press (110 ft) with a Method 204 certified PTE that has not experienced operational problems with its press enclosure, we feel that wood products enclosures (as defined in today's final rule) can be designed around long continuous presses. We recognize that higher cost may be associated with wood products enclosures around long continuous presses than for batch presses, but the CAA does not allow us to consider cost at the MACT floor control level.

We note that enclosures greater then 200 ft in length are common in the printing/publishing industry. However, we do recognize there are differences in the enclosures used in the printing/publishing industry and those in the PCWP industry. Although not cyclical in operation like batch presses, continuous presses are heated operations and may also have internal pressurization issues similar to those raised by the commenters for batch presses. Therefore, we feel it is appropriate for the same definition of wood products enclosure promulgated for

batch presses to apply to long continuous presses as well (as opposed to Method 204 certification).

3. MACT Floor Determinations of No Emissions Reductions

Comment: Industry commenters supported our proposed MACT floor determinations of no emissions reductions for some process units, arguing our approach was fully consistent with applicable case law in the U.S. Court of Appeals for the D.C. Circuit. EPA properly determined that the average of the best-performing 12 percent of certain existing PCWP process units did not reflect the use of any control technology, and that no other universally applicable variables would affect HAP emissions, industry commenters stated. The commenters also claimed that EPA looked at pollution prevention (P2) measures and other approaches to determining the MACT floor, found none that are universally applicable, and therefore was permitted to base a no emissions reduction floor on the PCWP record.

Response: As explained in the proposal preamble and supporting documentation, for those process units not required to meet the control requirements in the PCWP rule as proposed, we determined that: (1) the MACT floor level of control is no emissions reductions, and beyond-

the-floor control options are too costly to be feasible; or (2) insufficient information is available to conclude that the MACT floor level of control is represented by any emissions reductions. We based our MACT floor determinations for PCWP emission sources on the presence or absence of an add-on air pollution control device because we are not aware of any demonstrated P2 techniques that can be universally applied across the industry, and we have no information on the degree of emissions reduction that can be achieved through P2 measures. Therefore, to our knowledge the use of add-on controls is the only way in which PCWP sources can currently limit HAP emissions, and the only way to identify the MACT floor for these sources is to identify a level that corresponds to that achieved by the use of add-on controls. When determining the MACT floor, we ranked the process units by control device rather than by actual unit-specific emissions reductions because we have limited inlet/outlet emissions data. Based on the available information, we are not aware of any significant design or operational differences among each type of control system evaluated that would affect the ranking of process units. Furthermore, we are not aware

of factors other than the type of control system used that would significantly affect the ranking of process units. An analysis of the available emissions data does not reveal any process variables that can be manipulated (without altering the product) to achieve a quantifiable reduction in emissions. Ranking process units according to control device, we determined that the MACT floor is no emissions reductions for several process unit groups including press predryers, fiberboard mat dryers, and board coolers at existing affected sources; and dry rotary dryers, veneer redryers, softwood plywood presses, hardwood plywood presses, engineered wood products presses, hardwood veneer dryers, humidifiers, atmospheric refiners, formers, blenders, rotary agricultural fiber dryers, agricultural fiber board presses, sanders, saws, fiber washers, chippers, log vats, lumber kilns, storage tanks, wastewater operations, miscellaneous coating operations, and stand-alone digesters at new and existing affected sources. As explained in the promulgation BID and supporting documentation, we also determined that beyond-the-floor control options are too costly for these process unit groups.

At proposal, we requested comment on whether no

emissions reductions for miscellaneous coating operations and for wastewater operations is appropriate (68 FR 1276, January 9, 2003). We also requested that commenters on this issue submit any information they might have on HAP or VOC emissions from miscellaneous coating operations and wastewater operations. However, no additional information on these operations was received from any of the commenters on the proposed rule. Following proposal, we reviewed our MACT analyses for miscellaneous coating and wastewater operations, as described in the following paragraphs and in the promulgation BID and supporting documentation. For miscellaneous coating operations, we gathered some additional information and were able to revise our conclusions regarding MACT in the absence of specific information on the emissions reduction achieved. However, we have no more reason to feel now than we did at proposal that PCWP wastewater operations are in fact subject to any emission control measures.

Based on the available information, we have no basis to conclude that the MACT floor for new or existing sources is represented by any emission reductions for several of miscellaneous coating processes (i.e., anti-skid coatings, primers, wood patches applied to

plywood, concrete forming oil, veneer composing, and fire retardants applied during forming), and we determined that there are no cost-effective beyond-the-floor measures to reduce HAP from these coating processes. However, some facilities reported use of water-based (non-HAP) coatings in their MACT survey responses for other types of coatings (including edge seals, nail lines, logo paint, shelving edge fillers, and trademark/gradestamp inks). Other facilities reported use of solvent-based coatings for these processes. In some instances, a few respondents provided information on the percent HAP content of a solvent-based coating. Solvent-based coatings do not always contain HAP (e.g., the solvent may be mineral oil which does not contain HAP), and water-based coatings typically do not contain HAP. Thus, many of the coatings reported in the MACT survey responses are non-HAP coatings. While the emission reduction achieved as a result of coating substitutions cannot be determined, it is clear that use of non-HAP coatings represents the MACT floor because of the large number of facilities reporting use of non-HAP coatings. Beyond-the-floor options were not considered for edge seals, nail lines, logo paint, shelving edge

fillers, and trademark/gradestamp inks because no further emissions reductions can be achieved than through use of non-HAP coatings. Based upon our revised MACT analysis, the final PCWP rule requires use of non-HAP coating for processes identified as group 1 miscellaneous coating processes.

The definition of non-HAP coating included in the final rule was based on the description of non-HAP coatings in the final WBP NESHAP (subpart QQQQ to 40 CFR part 63). This definition allows for unavoidable trace amounts of HAP that may be contained in the raw materials used to produce certain coatings. Through the definition of group 1 miscellaneous coatings in the final rule, kiln-dried lumber is excluded from the requirement to use non-HAP coatings because application of coatings used at kiln-dried lumber manufacturing facilities is not part of the PCWP source category. Although trademarks/gradestamps are applied to kiln-dried lumber, lumber kilns are the only processes at kiln-dried lumber manufacturing facilities covered under the PCWP source category.

For wastewater operations, we concluded that we had insufficient information to conclude that the MACT floor

level of control is represented by any emissions reductions. The available information on wastewater operations collected as part of the MACT survey of the PCWP industry and information contained in State permits indicated that these sources of emissions were not the subject of control requirements and were not expected to be significant sources of HAP or VOC emissions. As stated above, we received no comments containing additional information on emissions reduction measures or HAP/VOC emissions from wastewater operations. Thus, we have no more reason to feel now than we did at proposal that PCWP wastewater operations are in fact subject to any control measures. As a result, since no information shows that these PCWP operations use add-on controls, there is no identifiable numerical emissions level that would correspond to a MACT floor level reflecting the use of controls, and the only floor level demonstrable based on current data is no emissions reduction. Furthermore, given that our best data show that the emissions from wastewater operations are less than 1 ton/yr, we concluded that application of the control measures mentioned above would not be cost effective beyond-the-floor options. In response to the commenter’s

objection to the incompleteness of the data set for these PCWP operations, we note that the D.C. Circuit does not require EPA to obtain complete data as long as we are able to otherwise estimate the MACT floor (Sierra Club V. EPA, 167 F.3d 658,662 (D.C. Cir. 1999)). Unlike dryers and presses at PCWP plants, wastewater operations have not been subjected by permitting authorities to controls for HAP emissions. We expended much effort in the early stages of the project gathering complete and accurate information on the PCWP processes with the most potential for HAP emissions and the greatest potential for emission control (i.e., the processes that have been the focus of permit requirements limiting HAP/VOC emissions) and the final PCWP rule addresses emissions from these process units.

Had we been given reason to feel that there were emissions control measures associated with wastewater operations, we would have gathered more information for these processes earlier in the project. Even though we have determined that the current MACT floor for these PCWP operations is no emission reduction, since available information indicates they are not controlled, the HAP emissions from wastewater operations (and other PCWP

sources with MACT determinations reflecting no emissions reductions) will be considered further when we review residual risk as required under section 112(f).

E. New Source MACT

Comment: One commenter objected to our determination that MACT is the same degree of control for new and existing sources for many process units based on the fact that the best technology is the same for new and existing sources (i.e., incineration-based controls or biofilters). The commenter pointed out that, according to the proposal BID, the maximum percent control efficiency is in the upper 90s for THC, formaldehyde, and methanol. The commenter noted that the CAA requires the MACT floor to be based on the degree of emissions reduction achieved in practice by the best-controlled similar source. Thus, the commenter requested that we revise the new source MACT requirements for process units based upon the greatest reductions recorded.

Response: As explained in the preamble to the proposed rule and supporting documentation, the MACT floor for both new and existing sources is based on the estimate of the performance achieved through application of RTO, RCO, or biofilters. We acknowledge that some

incineration-based controls and biofilters can achieve greater than 90 percent reduction in HAP or THC during a single performance test or a test run within a performance test. However, we also recognize that the percent reduction achieved can vary according to pollutant inlet concentration, a factor that is not directly controllable from a process or control device standpoint. Other unknown factors may also cause variability in control system performance. For example, we have THC percent reduction data for an RTO used to control emissions from three tube dryers and a press at an MDF plant for two emission tests conducted at different times. In 1996, the RTO achieved 92.7 percent reduction of THC, and in 1998 the same RTO achieved 98.9 percent reduction of THC. In addition, we have emissions test data for the same process unit and control system for multiple years, and these data show different emission factors, indicating that variability is inherent within each process unit and control system combination. Thus, we estimate that the best MACT technology achieves 90 percent HAP reductions when variations in operations and measurements are considered.

F. Definition of Control Device

Comment: Several commenters requested that we add scrubbers and adsorbers to the proposed definition of "control device" and that condensers be omitted from the definition. One of the commenters operates a particleboard press that is equipped with a condenser that condenses steam from the press exhaust and then routes the condensate to an onsite wastewater treatment system. The remaining noncondensed gases are combusted in an onsite boiler as supplemental fuel. This commenter would like to be able to comply with the PBCO for reconstituted wood products presses rather than demonstrate compliance with one of the add-on control system compliance options (e.g., 90 percent emissions reduction) or emissions averaging provisions; however, the commenter noted that PBCO only apply to uncontrolled emission sources. Therefore, the commenter requested that the definition of control device be limited only to those add-on control systems that were designed with HAP removal as the primary goal.

Response: We disagree with the commenters that the proposed definition of control device should be changed. The definition in the final rule does not include scrubbers or absorbers but does include condensers and

combustion units that incinerate process unit exhausts. For purposes of MACT standards development, the reason a control device is installed is immaterial. All control devices or techniques that reduce HAP emissions are considered when setting MACT standards. We note that the PBCO were developed and included in the PCWP rule for inherently low-emitting process units or process units with P2 techniques and not for process units with add-on control systems. Therefore, the particleboard press equipped with the condenser and combustion unit described by the commenter cannot comply using the PBCO.

In the proposed PCWP rule, we intentionally omitted absorbers (e.g., wet scrubbers) from the list of potential control devices because these technologies generally are not reliable for reducing HAP emissions. These wet systems may achieve short-term reductions in THC or gaseous HAP emissions; however, the HAP and THC control efficiency data, which range from slightly positive to negative values, indicate that the ability of these wet systems to absorb water-soluble compounds (such as formaldehyde) diminishes as the recirculating scrubbing liquid becomes saturated with these compounds. We wished to limit the examples included in the

definition of control device to those devices for which we have data to demonstrate that they are effective in reducing HAP emissions from PCWP facilities. However, we note that the definition includes the phrase “but not limited to” and does not exclude other types of controls. We are aware that new technologies (some of which may be adsorption-based or absorption-based) may be developed that effectively reduce HAP emissions from PCWP sources. The definition of control device does not prevent their development or use.

Facilities using wet scrubbers or WESP to meet the add-on APCD or emissions averaging compliance options can petition the Administrator for approval of site-specific operating requirements to be used in demonstrating continuous compliance. Alternatively, facilities using a wet scrubber or WESP may use a THC CEMS to show that the THC concentration in the APCD exhaust remains below the minimum concentration established during the performance test. In addition, facilities using wet control devices (e.g., wet scrubber or WESP) as the sole means of reducing HAP emissions must submit with their Notification of Compliance Status a plan for review and approval to address how organic HAP captured in the

wastewater from the wet control device are contained or destroyed to minimize re-release to the atmosphere such that the desired emission reduction is obtained. Because wet scrubbers or WESP are add-on APCD and have variable effects on HAP emissions, today's final rule specifies that sources cannot use add-on control systems or wet control devices to meet PBCO. As part of this change, we added a definition of "wet control device" to today's final rule. We note that PCWP facilities demonstrating compliance with the PBCO for process units equipped with any wet control device that effects HAP emissions must test prior to the wet control device.

G. Compliance Options

1. Add-on Control System Compliance Options

Comment: We received a number of comments related to the six add-on control systems compliance options and how these options might be implemented at an actual PCWP facility. One commenter argued that the use of multiple compliance options for add-on control systems will make it difficult for State agencies to determine if a facility is actually in compliance. The commenter pointed out that, if a facility tested for two options but passed only one, it would still be in compliance.

However, the commenter stated that the rule as proposed was unclear whether a facility would be in violation if the facility chose to test for one option, failed that test, and then conducted another test to determine compliance with a different option. The commenter contended that this would constitute a violation of the standard, and any retesting to determine compliance with a different option would not reverse the initial violation. Therefore, the commenter requested that we clarify that the option to use the most beneficial results of two or more test methods applies only when these tests are conducted during a single performance test. According to the commenter, any facility that chose to use only one test method during the compliance test would have to accept the results of that test.

Other commenters argued that a facility should be able to switch among the six add-on control options as needed to maintain compliance. To illustrate the necessity of the ability to switch from one add-on control option to another, the commenters provided an example whereby the operator of a veneer dryer might want to demonstrate compliance with the 90 percent THC reduction option (option 1 in Table 1B to the final rule) under certain

operating conditions and with the 20 parts per million by volume (ppmv) THC option (option 2 in Table 1B to the final rule) under other operating conditions. One of the commenters also noted that production starts and stops and minor malfunctions are common at PCWP facilities, and most of them do not affect the performance of the air pollution control device. However, frequent SSM events resulting in a low concentration to the inlet of the control device could affect a facility's ability to comply with the percent reduction option. In this case, the commenter stated that the freedom to switch compliance options would be valuable. For these reasons, the commenters requested that we explicitly state in the final PCWP rule that "a facility only need comply with any one of the six options at any one time, and that it can change between them as needed to fit process operating conditions."

Response: We understand the commenters' concerns on this issue and have written the final rule to clarify our intentions regarding how the add-on control system compliance options should be implemented at PCWP facilities. The proposed rule states at 40 CFR 63.2240 that "You cannot use multiple compliance options for a

single process unit." We included this provision to prevent PCWP sources from partitioning emissions from a single process unit and then applying different control options to each portion of the emissions stream. The MACT floor determinations and compliance options were all based on the full flow of emissions from process units, and therefore, compliance options should be applied to the same mass of emissions to ensure that the required MACT floor emissions reductions are achieved. When including this restriction, we did not intend necessarily to limit PCWP facilities to only one of the six options for add-on control systems. We did assume that each source would likely select only one option, and that at any point in time for purposes of assessing compliance, the given compliance option would have been pre-selected and reflected as applicable in the source's permit. In fact, in discussions with industry representatives prior to proposal, they expressed concern that the final rule be written to make it clear that a source would only have to comply with one option and not all six.

Based on available data, we expect that most facilities will be able to demonstrate compliance with more than one of the compliance options for add-on

control systems. When developing the six compliance options for add-on control systems, we felt that PCWP facilities would conduct emissions testing (e.g., inlet and outlet testing for THC, methanol, and formaldehyde over a range of APCD operating temperatures) and then, based on the results of testing, select the option that provides them with the most operating flexibility as well as an acceptable compliance margin (i.e., select the option that they feel will be easiest for them to meet on a continuous basis under varying conditions). The operating parameter limit to be reflected in the source's permit (e.g., minimum temperature) would be based on the measurements made during the compliant test runs. For example, if test results show that a facility can achieve 90 percent reduction for formaldehyde, 92 percent reduction for methanol, and 94 percent reduction for THC, then the facility may decide to reduce THC emissions by 90 percent, since this option appears to provide the greatest compliance margin. The corresponding operating parameter level measured during the testing (e.g., minimum 15-minute RTO temperature during a three-run test) would then be set as the operating limit in the permit for that source. In this example, if the RTO

operating temperature drops below the operating limit, that would be a deviation, and any subsequent retesting done by the facility would presumably be done based on the chosen compliance option (e.g., reduce THC emissions by 90 percent). Determining compliance in this case is relatively straightforward. However, we are aware that State agencies may simply refer to a NESHAP as part of a permit and not stipulate which compliance option the facility must meet. In these cases, we agree with the commenter who was concerned that compliance can be complicated when the referenced NESHAP contains multiple options, and that such a broad reference would not be adequate to identify the particular option (and parameter operating limits) applicable to the source. We also agree that, if a facility selects multiple options under the compliance options for add-on control systems, it should be required to conduct all necessary testing associated with compliance with the selected options concurrently. In addition the facility should obtain permit terms reflecting these options as alternate operating scenarios that clearly identify at what points and under what conditions the different options apply, such that compliance can be determined during a single

time frame. For example, if the source wishes to include options 1, 3, and 5 in their permit, then it must perform inlet and outlet testing for THC, methanol, and formaldehyde any time the State agency has reason to require a repeat performance test (if all three options are simultaneously applicable) or test for the single applicable option that corresponds to the given time and condition (if the options apply as alternate operating scenarios under different conditions). With this approach, we would avoid situations where a facility retests to determine compliance with a compliance option, fails to demonstrate compliance with that option, and then conducts additional testing to determine compliance with other options that are not pre-established as applicable at a later date.

The final rule clarifies our intentions regarding the use of multiple control options with respect to add-on control systems versus the combining of control options for a single process unit. The language in 40 CFR 63.2240 of the final rule has been modified to remove the proposed text stating that a source “cannot use multiple compliance options for a single process unit” and replace it with a statement that a source “cannot combine

compliance options in paragraphs (a)[PBCO], (b)[add-on control systems compliance options] or (c)[emissions averaging provisions] for a single process unit." We feel that this wording change clarifies our intention to prevent sources from applying different control options to different portions of the emissions from a single process unit, while leaving open the potential for PCWP facilities to be able to include multiple compliance options for add-on control systems (i.e., one option per defined operating condition) in a State permit. Although add-on controls are used in emissions averaging plans to achieve full or partial control of emissions from a given process unit, the emissions from a single process unit cannot be parceled such that a portion of the emissions meets one of the add-on control system compliance options and another portion is used as part of an EAP. The final rule continues to state that sources must meet at least one of the six options for add-on control systems.

2. PBCO Limits

Comment: Several commenters requested that PCWP facilities be allowed to use add-on control methods to achieve the PBCO limits. The commenters argued that allowing compliance with the PBCO using APCD is

consistent with other MACT rules and P2 approaches. According to the commenters, numerous NESHAP allow emissions limits to be reached using add-on controls, P2 techniques, or a combination of both. The commenters stated that there was no legal or policy basis for imposing restrictions on the use of PBCO in the PCWP MACT. The commenters also stated that using add-on controls to comply with PBCO will benefit facilities that have process units that emit low levels of HAP. According to the commenter, some companies have already implemented P2 strategies that have been established as BACT in a prevention of significant deterioration (PSD) permit. Because these P2 strategies may fall short of the PBCO, companies implementing these strategies would be unable to achieve compliance with the proposed rule without abandoning the P2 strategy and installing full control. The commenters also stated that incorporating add-on controls in the PBCO would provide incentives to find low-energy pollution control equipment. The commenters gave an example whereby part of the emission unit exhaust could be used as combustion air for an onsite boiler. The commenters noted that in most cases, the boiler could only handle a portion of the exhaust

from multiple dryer stacks. The commenters stated that by combining this type of partial control approach with low-temperature drying, a facility may be able to meet the applicable dryer PBCO limit. According to the commenters, in this case, allowing for partial control would exclude the need for RTO technology and would provide a net benefit to the environment with a reduction of collateral oxidizer emissions. The commenters gave another example in which a facility with a conveyor strand dryer could send the exhaust from the first dryer section to a burner and then send the heat back to the dryer; the emissions from the remaining dryer sections would be uncontrolled if the total emissions were below the PBCO limit. In a third example provided by the commenters, a facility would remove enough HAP to comply with the PBCO limit using a scrubber, which would require less energy than incineration.

Response: As in the proposed rule, the final rule does not allow sources to comply with the PBCO through the use of add-on control systems. Our intention for including the PBCO was to provide an alternative to add-on controls (e.g., allow for and encourage the exploration of P2, which currently has not been

demonstrated as achieved by PCWP sources) and not to create another compliance option for sources equipped with add-on control systems that could inadvertently allow add-on control equipped systems to not perform to expected control efficiencies. Sources equipped with add-on control systems already have six different compliance options from which to choose, in addition to the emissions averaging compliance option. We note that the six options for add-on control systems are based on emissions reductions achievable with MACT control devices and thus are a measure of the performance of MACT control devices. This might not be true if a source combined PBCO and add-on controls, as explained below.

At proposal, we established PBCO limits for 10 process unit groups. Initially, we felt that we needed total HAP data for at least one process unit in each process unit group that was equipped with a control system in order to establish the PBCO limits. However, we had to discard this approach because controlled total HAP data are not available for half (5 of 10) of the process unit groups. We developed a number of other approaches to establishing PBCO, and then compared the results of these approaches, where possible, with actual emissions in the outlet of

MACT control devices. The approach that yielded results closest to actual emissions in the control device outlets was an approach based on a 90 percent reduction from the average emissions each process unit group. Thus, this approach was the one that resulted in limits that would most closely represent an alternative to the six compliance options for add-on control systems. However, our intention was not to develop an alternative limit to the six limits already established for add-on control devices. Our intention was to develop an alternative for P2 techniques. We decided to select an approach that allows sources that develop P2 techniques (or are otherwise inherently low-emitting sources) to comply and that reduces HAP emissions without generating the NO_X emissions associated with incineration-based controls. As a result, we selected a 90 percent reduction from the highest data point within each process unit group, because the results appeared to be at levels that would not preclude the development of environmentally beneficial P2 options as MACT.

If PBCO were allowed as another option for measuring the performance of add-on control devices, operators could run the APCD so that the APCD would not achieve

MACT level emissions reductions, but would meet the PBCO. We note that we did not develop the methanol and formaldehyde add-on control options (options 4 and 6 in Table 1B to the final rule) based on typical or maximum levels of methanol and formaldehyde found in the outlet of the control devices, but instead looked at the performance of the MACT control devices in reducing these HAP, set the levels based on the method detection limits for these compounds, and included a minimum inlet concentration requirement for the use of the outlet concentration options to ensure that HAP emissions reductions are achieved. Allowing the use of APCD to comply with PBCO could allow circumvention of such optimization, which could render the MACT control itself to be less effective than MACT.

Regarding the other MACT standards referenced by the commenters, we agree that these other rules may allow facilities more flexibility in meeting a production-based option (e.g., “lb/ton” emission limit); however, we cannot allow add-on controls to be used to meet the PBCO in the final PCWP rule because doing so would render these limits not equivalent to the other compliance options. For example, consider a typical wood products

press with an annual production rate of 100 million square feet of board per year and a total HAP emission rate of 1.0 pound per thousand square feet of board on a ¾-inch basis (lb/MSF ¾”). On an annual basis, the example press emits 50 tons of HAP per year. If the example press complies with the 90 percent HAP reduction requirement, then the HAP emissions reductions achieved will be at least 45 tons/yr. However, if this same press were allowed to comply with the applicable PBCO limit (0.30 lb/MSF ¾”) using an APCD (e.g., RTO), then the emissions reductions achieved could be as little as 35 tons/yr if the APCD is only applied to a portion of the press’ emissions or if the APCD is not operated at MACT-level efficiency. Not only would a significantly lower HAP emission reduction be achieved in this situation, but there also would not be any net benefit to the environment to justify the lower HAP reduction (i.e., NO_X emissions would still be created). Therefore, we feel it is appropriate and in keeping with the MACT floor to require PCWP process units with uncontrolled HAP emissions above the PBCO thresholds to achieve the full 90 percent reduction in emissions. We also wish to clarify that a PCWP facility may use any number of

compliance options, as long as these options are not combined for an individual process unit. For example, a facility may choose to meet the applicable PBCO limit for one dryer, control emissions from a blender to avoid controlling emissions on the remaining two dryers as part of an emissions average, and comply with one of the add-on control systems compliance options for the press.

Regarding the examples cited by the commenter as candidates for a PBCO if add-on controls were allowed, we note that the final rule includes a revised MACT floor for existing conveyor strand dryers, such that existing conveyor strand dryers that send the emissions from the first dryer section back to the combustion unit that heats the dryer should be able to meet the rule requirements without additional controls. In addition, partial control (e.g., routing part of the emission stream from a process unit to an onsite combustion unit for incineration) is allowed as part of an EAP as long as the actual emissions reductions achieved are greater than or equal to the required emissions reductions. When partial control is used as part of an EAP, the overall reductions are equivalent to what would be achieved if a source elected to comply using the add-on control system

compliance options; however, the same would not be true if partial control were used to comply with a PBCO limit. Therefore partial incineration control is not allowed in the PBCO.

Regarding the use of scrubbers to comply with a PBCO, as stated earlier in this preamble, the PCWP industry's own data do not support wet scrubbers as a reliable control technology for HAP, and sources equipped with wet control devices will be required to test prior to the wet control device if they elect to comply with a PBCO.

Comment: Several commenters stated that PCWP facilities should be allowed to neglect nondetect HAP measurements for PBCO calculations. The commenters argued that if a facility is forced to use values of one-half the detection limit for nondetect HAP, that facility may be unable to use PBCO because the mass of emissions attributed to undetected compounds may consume 50 percent or more of the PBCO limit. The commenters also noted that the detection levels measured in the field by the NCASI test method, NCASI IM/CAN/WP-99.01, generally range between 0.35 and 1 ppm, and the detection levels of the FTIR method averages about 1 ppm. According to the commenters, even at these low concentrations, using one-

half the detection limit for nondetect compounds can put the PBCO out of reach for a high-flow-rate PCWP stream. The commenters also provided a sample calculation to demonstrate the effect that the detection level has on the compliance calculation.

Response: In responding to this request, we reviewed the information supplied by the commenters and analyzed the potential effects of making the requested change using available emissions data. After reviewing the total HAP data used to establish the PBCO limits, we decided that sources should be able to treat nondetect measurements for an individual HAP as zero for the sole purpose of determining compliance with the PBCO, if, and only if, the following two conditions are met: (1) the detection limit for that pollutant is set at a value that is less than or equal to 1 ppmvd, and (2) emissions of that pollutant are nondetect for all three test runs. We included the first condition to prevent test contractors from setting the detection limits too high, and thus generating false zeroes. We selected 1 ppmvd as the maximum detection limit value because it matches the detection limits achievable with the test methods included in the final PCWP rule. We included the second

condition to ensure that the source is truly low-emitting, as evidenced by three nondetect test runs. If emissions of the HAP are detected during any one test run, then any nondetect runs must be treated as being equal to one-half the detection limit. The option to treat nondetect measurements as zero does not apply to the compliance options for add-on control systems because treating the outlet emissions from a control device as zero would artificially increase the calculated control efficiency for that pollutant to 100 percent.

To ensure that the PBCO limits were developed in a manner consistent with how they would be applied, the PBCO limits were recalculated using zero for nondetect measurements when all test runs were nondetect. As a result, the PBCO limit for reconstituted wood product board coolers changed from 0.015 to 0.014 lb/MSF ¾". No other PBCO limits changed as a result of using zero for nondetects when calculating the PBCO limits.

We added a new PBCO limit to the final rule for secondary tube dryers. This new limit corresponds to our decision to treat primary and secondary tube dryers as separate process units, as discussed previously in this preamble. The final rule also differentiates between

rotary strand dryers and conveyor strand dryers, as discussed previously in this preamble; however, no new PBCO limits have been added for these two process units groups. The final PBCO limit for rotary strand dryers is the same as the proposed limit for strand dryers because the data used to establish the proposed PBCO limit was based on data from rotary strand dryers exclusively. We do not have the necessary data to establish a PBCO for conveyor strand dryers, and thus the final rule does not include a PBCO limit for that process unit group.

3. Emissions Averaging Provisions

Comment: Industry commenters generally expressed support for the inclusion of an emissions averaging program in the PCWP rule as proposed, but requested that the proposed provisions be modified to allow for broader use of emissions averaging at PCWP facilities. Requested modifications include allowing sources to receive credit for achieving emissions reductions greater than 90 percent; basing compliance on a single pollutant; allowing sources to combine emissions averaging with PBCO; and allowing sources to receive credit for P2 alternatives as part of an EAP.

Response: We included an emission averaging

compliance option in the proposed rule as an equivalent, more flexible, and less costly alternative to the compliance options for add-on control systems. Unlike previous MACT standards with emissions averaging, the proposed (and final) emissions averaging provisions in the PCWP rule do not include (1) limits on the number of sources that can be included in an emissions average, (2) requirements for a hazard or risk analysis, or (3) application of a 10 percent discount factor to emissions credit calculations. In addition, the emissions averaging provisions in the final PCWP rule require that credits for emissions reductions be achieved using APCD, and that the EAP be based on emissions of the six predominant HAP emitted from PCWP process units, referred to as total HAP. Also, the emissions averaging provisions do not allow credit for reductions beyond 90 percent.

We disagree with the commenters' request to allow credit for achieving greater than 90 percent control of HAP as part of an EAP. We note that the 90 percent MACT floor level (upon which the emissions averaging provisions are based) reflects the inherent variability in uncontrolled emissions from PCWP process units and the

decline in performance of control devices applied to these process units. The data set used to establish the MACT floor is composed of point-in-time test reports, some of which show a greater than 90 percent control efficiency; however, we selected 90 percent as the MACT floor level of control to reflect inherent performance variability. Therefore, it would be inappropriate to allow PCWP facilities to receive credit for similar point-in-time performance tests showing greater than 90 percent control, considering that the same types of control technologies would be used.

Regarding the commenters' request to allow credit for greater than 90 percent control for those sources with no MACT control requirements, we maintain that this would be inappropriate because the same issues of emissions variability and control device performance apply to those emission sources, and they likely would share control devices with PCWP process units that do have MACT control requirements.

We have rejected the commenters' suggestion to base the emissions averaging provisions on a single pollutant (e.g., THC, methanol or formaldehyde), and retained the requirement in the final rule that the EAP must be based

on total HAP. The predominant HAP emitted from a given process unit varies, with some process units emitting methanol as the predominant HAP and others emitting formaldehyde or acetaldehyde as the predominant HAP. However, the predominant HAP will always be one of the six we have identified in the definition of total HAP in the final PCWP rule. If we based the EAP on only one pollutant, process units that emit the target HAP in small quantities will not be correctly accounted for in the EAP, resulting in potentially less stringent control and greater potential risk than would result with other control options. As noted above, we did not include a hazard/risk study as part of the proposed EAP because we were requiring that the emissions reductions be based on total HAP, and PCWP process units generally emit the same six primary HAP, although in different quantities and ratios. Basing the EAP on a single pollutant would eliminate our rationale for not requiring a risk analysis. We also note that, while THC emissions are an acceptable surrogate for monitoring the performance of an add-on control device (same control device mechanisms that reduce THC emissions reduce HAP emissions), THC emissions are not an accurate surrogate for establishing

baseline HAP emissions for uncontrolled process units, and thus the EAP should not be based solely on THC emissions. Although all PCWP process units emit THC, uncontrolled THC emissions from softwoods are substantially higher than from hardwoods due to non-HAP compounds (e.g., pinenes) present in softwoods. Therefore, allowing sources without add-on controls to focus on THC reductions achieved by increasing hardwood usage might reduce THC emissions but would have a minimal impact on HAP emissions. For these reasons, we feel that, for the purpose of the final rulemaking, THC should only be used as a surrogate for HAP when assessing the performance of an add-on control device, and should not be used as a surrogate for establishing the required and actual mass removal of HAP as part of an EAP.

We disagree with the commenters that combining the emissions averaging option and PBCO will result in equivalent emissions reductions. As we stated in our response to previous comments in this section regarding PBCO, we developed the PBCO limits to provide an option for sources that develop P2 techniques. The PBCO limits represent applicability cutoffs such that sources with emissions below the applicable PBCO thresholds are not

required to further reduce those emissions below MACT levels. By combining PBCO limits with the EAP, as proposed by the commenter, we would be allowing higher-emitting sources (i.e., those that cannot meet a PBCO and which should be controlled) to escape controls by artificially lowering their emissions (using the credits from the EAP) to levels that would qualify as low-emitting (below PBCO limits). This is counter to the intent of the PBCO and would result in lower emissions reductions than would be achieved without combining these two compliance options; therefore, this does not represent an option that is equivalent to the MACT floor and is not allowed in the final rule.

We also disagree with the commenters' suggestion to modify the emissions averaging provisions to allow sources to receive credit for P2 projects because: (1) compliance options (i.e., PBCO) already exist for any P2 projects that prove feasible, and (2) inclusion of currently undemonstrated P2 projects within EAP would unnecessarily complicate these plans and hamper enforcement. As we noted previously in this preamble, the final rule allows PCWP facilities to use both P2 (i.e., the PBCO) and emissions averaging at the same

facility; sources are only limited in that they cannot apply both options to the same process unit. We also disagree with the commenters' assertion that quantifying the emissions reductions from P2 projects would not be difficult. Quantifying the emissions reductions associated with P2 projects has historically been a contentious issue, especially when a baseline emission level must be established from which to calculate the emissions reduction. We feel that the same issues apply for PCWP facilities, especially given the fact that P2 techniques have not been widely used or documented in the PCWP industry. In contrast, emissions reductions achieved through the use of add-on control systems are easily documented. The PBCO were established to address the future development and implementation of P2 techniques; however, the resultant PBCO limits do not require that emissions reductions be determined. Instead, sources simply demonstrate that they are below the PBCO limit and will continue to operate in a manner that ensures they will remain below the PBCO limit.

Regarding the suggested P2 option of increasing a facility's use of hardwood species, in addressing other issues, commenters stressed the difficulties associated

with maintaining a consistent wood material flow in terms of species, moisture content, etc., which would suggest that an operating condition based on maintaining a set level of wood species would be unworkable. Furthermore, for veneer dryers, where species identification (hardwood vs. softwood), and thus enforcement, is fairly straightforward from the standpoint of both visual inspection and end-product, we have already established separate MACT floors for softwood and hardwood veneer dryers (and require no further emissions reductions from hardwood veneer dryers). When the end product is particleboard or MDF, and the raw material is in the form of wood chips, planer shavings, or sawdust, determining how much of that material is softwood versus hardwood would be very difficult, and likely unenforceable. Because of commenters' concerns that an operating condition based on wood species is technically unworkable and the associated enforcement issues, we feel this option is not viable.

Regarding process changes such as reformulation, lowering dryer temperature, and routing process unit exhaust to existing combustion devices, the final rule already includes compliance options that would

accommodate all of these strategies. For example, product reformulation and lowering dryer temperature are potential P2 options, and the PBCO limits would apply if the P2 efforts sufficiently lower emissions. The final PCWP rule distinguishes between green (high temperature, high moisture) rotary dryers and dry (low temperature, low moisture) rotary dryers and requires no further emissions reductions from dry rotary dryers. Regarding the use of existing combustion units as control devices, the final rule allows sources to route emissions to onsite combustion units for incineration. The final rule also allows sources to control a portion of a process unit's emission stream as part of an emissions average. However, we disagree that incineration of emissions in onsite process units is a P2 measure. Therefore, compliance with the PBCO using process incineration is not allowed in the final rule. The add-on control system and emissions averaging compliance options are available for process units controlled by routing exhaust to an onsite combustion unit.

The final PCWP rule does not allow production curtailment to be counted as part of an EAP. As stated in the preamble to the proposed rule (68 FR 1276, January

9, 2003), we do not have facility-wide uncontrolled emissions data and facility-wide controlled emissions data for each PCWP facility to determine the baseline emissions and percent reduction in HAP achieved by each facility. Therefore, the MACT floor is not based on facility-wide emissions and emissions reductions achieved during year "x." Instead, the MACT floor is based on (1) the presence or absence of certain MACT controls (in place as of April 2000) on certain types of process units and (2) test data showing that these controls reduce emissions by greater than or equal to 90 percent. We applied the MACT floor methodology at the process unit level because we had the most accurate data at the process-unit level, making this approach the most technically and legally sound. The PCWP industry is very dynamic, with frequent shutdowns of equipment for maintenance, and occasionally longer shutdowns (e.g., month-long), if demand drops. The final PCWP rule requires emissions from specified process units at impacted PCWP facilities to be reduced by 90 percent, regardless of what the levels of emissions are for those facilities in a particular year. Therefore, implementation of the final PCWP rule at individual PCWP

facilities will result in greater emissions reductions in years of greater production and lesser emissions reductions during years of lower production. As mentioned in the response to the previous comment, the emissions averaging provisions must achieve emissions reductions that are greater than or equal to those that would be achieved using the add-on control system compliance options, which specify which process units must be controlled. If we allowed credit for production curtailments, the overall emissions reductions achieved through the emissions averaging provisions would not be equivalent to what would be achieved through the use of the add-on control system compliance options, and therefore, the EAP would not be a MACT-equivalent alternative. For example, if we allowed production curtailments to count toward an emissions average, then a facility that shuts down one of two parallel production lines (each of which includes dryers and a press, plus HAP-emitting equipment that does not have associated control requirements) may not be required to control the emissions from any of the dryers or press on the remaining production line. However, if the same facility opted to comply with the add-on control system compliance

options, then it would be required to control the press and dryer emissions from the remaining production line by 90 percent regardless of whether or not the other production line was shut down. In order to maintain equivalency between the emissions averaging provisions and the add-on control system compliance options and to preserve the required HAP emissions reductions, the final PCWP rule does not allow production curtailment to be counted as part of an EAP.

Comment: One commenter objected to the inclusion of the emissions averaging option in the rule primarily because of the lack of a requirement to conduct a hazard or risk study. This commenter asserted that removing a certain mass of HAP regardless of identity is not equivalent to the other compliance options, and when the dose-response and exposure data are examined, it should be obvious that trading one HAP for another to meet a RMR is not an acceptable option. The commenter noted that there are currently no methods for weighting the toxicity of HAP and that the effects of simultaneous exposure to several HAP also are unknown.

Response: We disagree with commenter's assertion that inclusion of the emissions averaging provisions will

potentially increase toxic emissions at certain PCWP process units. As stated in the preamble to the proposed rule (68 FR 1289, January 9, 2003), PCWP facilities have fewer pollutants of concern (as compared to HON facilities) and are likely to have similar HAP emissions from the emission points (process units) that would be used to generate debits and credits. The PCWP facilities emit six primary HAP, whereas HON facilities may emit over 140 different HAP. The PCWP facilities choosing to comply through emission averaging must account for the emissions of the six primary HAP (total HAP), which represent greater than 96 percent of the mass of HAP emitted from PCWP process units. Because the MACT control technologies are effective in reducing the emissions of all six of these HAP, and the emissions averaging provisions require the use of add-on control technologies for credit-generating sources in an EAP, we feel that the emissions averaging provisions will achieve a hazard/risk benefit comparable to what would be achieved through point-by-point compliance. Although the final rule does not require a hazard/risk study, States will still have the discretion to require a PCWP facility that requested approval of an EAP to conduct a

hazard/risk study (or could preclude the facility from using emissions averaging altogether).

Comment: Several commenters requested that we write the definitions of some of the variables used in the emissions averaging equations in the final rule to clarify that sources can take credit for emission reductions achieved through partial control of debit-generating process units.

Response: We agree with the commenters' request and have written the definitions of some of the variables used in the emissions averaging equations in today's final rule to clarify that partial credits generated from debit-generating process units that are undercontrolled can be included in the calculation of the AMR. For example, a PCWP facility may decide to control 30 percent of the emissions from a green rotary dryer and 80 percent of the emissions from a blender as part of an EAP in order to achieve a HAP reduction that is the same as or greater than what the facility would have achieved by controlling the green dryer emissions alone by 90 percent. In this example, the green rotary dryer is a debit-generating unit because it has MACT control requirements; however, the green dryer can receive credit

in the AMR calculation for any partial emissions reductions that are achieved.

H. Testing and Monitoring Requirements

1. Test Methods

Comment: Several commenters noted that one of the NCASI test methods, NCASI IM/CAN/WP-99.01, has been updated, and requested that the final rule refer to the revised version. One of the commenters provided a revised version of the method, identified as NCASI IM/CAN/WP-99.02. This commenter noted that the trained NCASI sampling team was able to get good consistent results with the original version of the method both in the laboratory and in the field, but that sampling contractors had difficulty obtaining valid results. The commenter maintained that the revised version is easier to understand, includes more details, and reflects the comments of the contractors that have experience with the original method. The commenter also stated that the quality assurance requirements were strengthened in the revised version to ensure good results. Several commenters also noted that NCASI is currently developing a new method for measuring the six HAP (total HAP) listed in the PCWP rule as proposed. Therefore, the commenters

requested that we include language in the final rule that would allow PCWP facilities to use future methods once they have been reviewed by EPA and have passed Method 301 validation at a PCWP plant.

Response: We reviewed the revised NCASI method IM/CAN/WP-99.02 supplied by the commenter and agree that the revised method is appropriate for measurement of the six HAP that comprise “total HAP;” therefore, we have included NCASI IM/CAN/WP-99.02 in the today’s final rule. Regarding the development of future test methods, if and when a new method for measuring HAP from PCWP sources is developed and validated via EPA Method 301, we will issue an amendment to the final rule to include the use of that method as an alternative to the methods included in the final rule for measuring total HAP (i.e., NCASI Method IM/CAN/WP/99.02 and EPA Method 320--Measurement of Vapor Phase Organic and Inorganic Emission by Extractive FTIR). In the meantime, if the new method is validated using Method 301, then the Method 301 results can be used to request approval to use the new method on a site-specific basis.

Comment: Several commenters noted that the tracer gas method for determining capture efficiency, developed by a

PCWP company and included in the proposed rule (68 FR 1276, appendix A to 40 CFR part 63), is a work in progress. These commenters included with their comments a copy of field validation tests conducted at a PCWP facility. The commenters noted that future tests are planned using the tracer gas method and that the results of these tests should help EPA improve the use and application of the proposed tracer gas test.

Response: We have reviewed the results of the first field validation test of the tracer gas method and note that the commenters did not provide any specific recommendations for modifying the tracer gas method as it was proposed. Therefore, other than a few minor wording changes, we did not make any substantive changes to the tracer gas method in the final rule. If the results of subsequent field tests demonstrate a need to (further) modify the tracer gas method, we will issue an amendment to the final rule to incorporate the necessary changes.

2. Sampling locations

Comment: Several commenters recommended that the final rule be reworded to clearly state that inlet sampling should take place at the functional inlet of a control device sequence or at the primary HAP control

device inlet. For example, the commenters noted that the final rule needs to clarify that sampling should take place at the inlet of a WESP that precedes an RTO instead of between the two devices. The commenters noted that many WESP-RTO control systems are too closely coupled to allow for a sampling location in between that meets the requirements of Method 1 or 1A, 40 CFR 60, appendix A.

Response: We agree with the commenters and have written the final PCWP rule to indicate that, for HAP-altering controls in sequence, such as a wet control device followed by a thermal oxidizer, sampling sites must be located at the functional inlet of the control sequence (e.g., prior to the wet control device) and at the outlet of the control sequence (e.g., thermal oxidizer outlet) and prior to any releases to the atmosphere. In addition, as discussed previously in this preamble, the final rule also clarifies that facilities demonstrating compliance with a PBCO limit for a process unit equipped with a wet control device must locate the sampling site prior to the wet control device.

3. Testing Under Representative Operating Conditions

Comment: Several commenters objected to the proposed requirement to test process units under representative

operating conditions. The commenters argued that, because the initial compliance tests determine the outer limits of compliance, those tests should be conducted at the boundaries of expected performance for the process and control units. These commenters noted that testing at representative conditions would not accurately simulate true operating conditions, and thus, the operating parameter limits would be too narrow. Therefore, the commenters contended that the final rule should specify that initial compliance tests should be conducted at the extremes of the expected operating range for the parameter and control device function. In addition, one of the commenters noted that the testing provisions should also address potential conflicts with traditional State requirements to test at maximum or design conditions.

Response: The proposed rule defined representative operating conditions as those conditions under which "the process unit will typically be operating in the future, including use of a representative range of materials[...] and representative temperature ranges." We disagree that the proposed requirement to test under representative operating conditions will conflict with State

requirements and result in operating parameter limits/ranges that are too narrow. We wish to clarify that the definition of representative operating conditions refers to the full range of conditions at which the process unit will be operating in the future. We expect that facilities will test under a variety of conditions, including upper and/or lower bounds, to better define the minimum or maximum operating parameter limit or broaden their operating limit ranges (where applicable). For example, if a facility generally operates a process unit (equipped with an RTO) under conditions that require the RTO to be operated at a minimum temperature of 1450°F to ensure compliance with the standards, but at other times operates that process unit under conditions such that the minimum RTO operating temperature must be 1525°F to ensure compliance, then the facility has two options. One option is for the facility to incorporate both of these operating conditions into their permit such that they are subject to two different operating parameter limits (minimum temperatures), one for each (defined) operating condition. As an alternative, the facility could decide to comply with the parameter limit associated with the worst-case operating

conditions (most challenging conditions for the RTO), which in this example would correspond to maintaining a minimum RTO operating temperature of 1525°F, and thus, they could demonstrate continuous compliance regardless of the operating condition as long as they maintained the RTO temperature at or above 1525°F. We have revised the monitoring requirements for process units without control devices to allow these sources to establish a range of compliant parameter values. In addition, those PCWP facilities operating biofilters must maintain their biofilter bed temperature within the range established during the initial performance test and, if available, previous performance tests. If the final PCWP rule required testing at maximum operating conditions, there would be no way for facilities to identify their operating parameter ranges. For these reasons, we maintain that the requirement to test at representative operating conditions is appropriate for the PCWP rule.

4. Process Incineration Monitoring Requirements

Comment: Several commenters expressed approval for the proposed exemption from testing and monitoring requirements for those process units with emissions introduced into the flame zone of an onsite combustion

unit with a capacity greater than or equal to 44 megawatts (MW) (150 million Btu/hr). In addition, several of these commenters requested that we expand upon this exemption in the final rule. First, the commenters requested that we extend the exemption to include situations where the process unit exhaust is introduced into the combustion unit with the combustion air. The commenters noted that we had included such exemptions in the HON (40 CFR part 63, subpart G) and in the Pulp and Paper Cluster Rule (40 CFR part 63, subpart S) in recognition of the fact that boilers greater than 44 MW typically had greater than ¾-second residence time, ran hotter than 1,500°F, and usually had destruction efficiencies greater than 98 percent (see 65 FR 3909, January 25, 2000, and 65 FR 80762, December 22, 2000, at §63.443(d)(4)(ii)). The commenters stated that the design and construction of PCWP boilers follow the same principles that would allow for these operating conditions. Second, the commenters requested that we also exempt smaller combustion units (less than 44 MW, or 150 million Btu/hr) from the testing and monitoring requirements if the process unit exhaust is introduced into the flame zone of the combustion unit. The

commenters noted that most of the combustion units associated at PCWP facilities are smaller units and that testing of these units can be complicated by their configuration and integration with other process units.

Response: After reviewing available information on process incineration at PCWP facilities, we decided to include smaller combustion units in the exemption from testing and monitoring requirements if the process exhaust enters into the flame zone. As part of this change, we have included definitions of “flame zone” and “combustion unit” in the final rule. However, we decided not to include an exemption for PCWP combustion units that introduce the process exhaust with the combustion air. As noted by the commenters, the HON and the final pulp and paper MACT I rule exempt from testing and monitoring requirements combustion devices with heat input capacity greater than or equal to 44 MW. The HON also exempts from testing and monitoring combustion devices with capacity less than 44 MW if the exhaust gas to be controlled enters with the primary fuel. If the exhaust gas to be controlled does not enter with the primary fuel, then testing and continuous monitoring of firebox temperature is required by the HON. Similarly,

the final pulp and paper MACT I rule exempts from testing and monitoring requirements combustion devices (including recovery furnaces, lime kilns, boilers, or process heaters) with capacity less than 44 MW if the exhaust stream to be controlled enters into the flame zone or with the primary fuel. Similar to the HON and pulp and paper MACT I rules, the final PCWP rule extends the exemption from testing and monitoring requirements to combustion units with heat input capacity less than 44 MW, provided that the exhaust gas to be treated enters into the combustion unit flame zone. If the exhaust gas enters into the combustion unit flame zone, the required 90 percent control efficiency may be assumed. If the exhaust gas does not enter into the flame zone, then the testing and monitoring requirements for thermal oxidizers will apply.

As noted by the commenter, the HON and the final pulp and paper MACT I rule exempted boilers (and recovery furnaces at pulp and paper mills) with heat input capacity greater than 44 MW from testing and monitoring requirements because performance data showed that these large boilers achieve at least 98 percent combustion of HAP when the emission streams are introduced with the

primary fuel, into the flame zone, or with the combustion air. Lime kilns at pulp and paper mills were excluded from this provision because we did not have any data to show that lime kilns can achieve the required destruction efficiency when the HAP emission stream is introduced with the combustion air. Therefore, lime kilns at pulp and paper mills that accept HAP emission streams must introduce the stream into the flame zone or with the primary fuel. We do not have the data to show that the design and construction of large (greater than 44 MW) combustion units at PCWP plants would be similar to boilers found at pulp and paper mills. Furthermore, combustion units at PCWP plants with heat input capacity of greater than 44 MW are less prevalent than smaller (i.e., less than 44 MW) PCWP combustion units, and many of these smaller combustion units are not boilers. As stated above, the final rule exempts these smaller combustion units from the testing and monitoring requirements provided that the HAP emission stream is introduced into the flame zone. For these reasons, the final PCWP rule does not extend the exemption from testing and monitoring to those boilers greater than 44 MW that introduce the HAP emission stream with the

combustion air.

5. Selection of Operating Parameter Limits for Add-on Control Systems

Comment: Several commenters stated that the inlet static pressure to a thermal or catalytic oxidizer is not a reliable indicator of the flow through the oxidizer, the destruction efficiency, or the capture efficiency. The commenters also noted that the preamble to the PCWP rule stated that monitoring the static pressure can indicate to the operator when there is a problem such as plugging. However, the commenters stated that static pressure is usually the last indicator of these types of control device problems. As discussed in the promulgation BID, the commenters agreed that measuring those parameters helps to assess the overall condition of the oxidizer but provided reasons why setting limits on these parameters is inappropriate. The commenters further noted that monitoring the static pressure helps to control the speed of the fan or the oxidizer dampers so that all the air flows are balanced. According to the commenters, static pressure is adjusted to avoid vacuum conditions in the ductwork of multiple-dryer systems treated by one control device when one dryer is shut

down, to improve emission collection efficiency and prevent fugitive emissions, and to adjust the pressure drop across a bag filter as it fills with particulates, among other reasons. However, the commenters stated that, if operators are required to keep the static pressure within an operating range, it will limit their ability to maintain capture efficiency. The commenters expressed similar concerns regarding air flow rate monitoring and noted that numerous factors affect the air flow through the control device, including the rate of water removal in dryers, leakage of tramp air into the process, the number of processes operating for control units that receive emissions from multiple production units, and the overall production speed due to process adjustments. The commenters noted that, in those cases where air flow to the oxidizer is not constant, monitoring the air flow through the oxidizer will not be an accurate measure of capture efficiency.

Response: After reviewing the information provided by the commenters, we agree that, while monitoring the static pressure or air flow rate helps to assess the overall condition of the oxidizer and provides an indication that emissions are being captured, setting

operating limits on these parameters is not appropriate for the reasons given by the commenters. Therefore, today's final rule does not include the proposed requirement to monitor the static pressure or air flow rate for thermal and catalytic oxidizers.

Comment: Several commenters requested that we modify the procedures for determining the minimum operating temperature (operating limit) for thermal and catalytic oxidizers. The commenters stated that, due to the normal variation in combustion temperatures, a facility will have to perform the initial compliance test at lower-than-normal temperature conditions to ensure that the minimum combustion temperature will be set at a level that they can continuously meet. The commenters requested that we allow facilities to operate the thermal oxidizers up to 50°F lower than the average obtained by the performance test and allow facilities to operate RCO at a level that is 100°F above the minimum operating temperature of the catalyst. The commenters also noted that, when the THC concentration in the inlet is high, the RCO will not need any additional heat and it can operate at temperatures higher than the set point. Therefore, if the initial compliance tests are conducted

under these conditions, the operating temperature limit will be too high for production rates at less than full capacity.

Commenters also stated that, for RCO, the thermocouple should be placed in a location to measure the temperature of the gas in the combustion chamber between the catalyst beds instead of in a location to measure the gas stream before it reaches the catalyst bed. The commenters noted that, because the gas flow reverses direction in RCO, the inlet temperature monitor will not consistently measure the gas at the same point in the process such that sometimes the gas temperature will be recorded after the catalyst beds instead of before. The commenters further noted that placement of the monitor inside the combustion chamber would eliminate the need for multiple monitors and avoid problems such as overheating and burnout of the catalyst media caused by the temperature delay between the burner and the RCO inlet.

Response: We disagree with the commenters' request to include a 50°F margin around the minimum operating temperature established during the thermal oxidizer compliance test. In general, selection of the representative operating conditions for both the process

and the control device for conducting the performance test is an important, and sometimes complex, task. We maintain that establishing the add-on control device operating limit at the level demonstrated during the performance test is appropriate. We note that the PCWP rule as proposed allows a facility to select the temperature operating limits based on site-specific operating conditions, and the facility is able to consider the need for temperature fluctuations in this selection. The PCWP rule as proposed requires that the operating limit be based on the average of the three minimum temperatures measured during a 3-hour performance test (rather than on the average temperature over the 3-hour period, for example) to accommodate normal variation during operation and ensure that the minimum temperature established represents the lowest of the temperatures measured during the compliant test. For example, during a 3-hour, three-run performance test, the operating limit would be determined by averaging together the lowest 15-minute average temperature measured during each of the three runs. However, continuous compliance with the operating limit is based on a 3-hour block average. For a typical 3-hour set of data, this means that the 3-hour

block average will be higher than the average of the three lowest 15-minute averages, so the temperature monitoring provisions already have a built-in compliance margin. In addition, the final rule allows PCWP facilities to conduct multiple performance tests to set the minimum operating temperature for RCO and RTO, so PCWP sources would have the option to conduct their own studies (under a variety of representative operating conditions) in order to establish the minimum operating temperature at a level that they could maintain and that would provide them with an acceptable compliance margin. We feel these provisions allow sufficient flexibility, and an additional tolerance for a 50°F temperature variation is not necessary. Therefore, the final rule does not allow facilities to operate thermal oxidizers 50°F lower than the average temperature during testing.

With regard to RCO, we agree with the commenters that when the THC concentration in the inlet is high, the RCO will not need any additional heat and it can operate at temperatures higher than the set point. Therefore, if the initial compliance tests are conducted under these conditions, the operating temperature limit will be too high for production rates at less than full capacity.

However, the final rule requires emissions testing under representative operating conditions and not maximum operating conditions. In addition, we do not agree with the commenter's solution to set the operating limit at 100°F above the minimum operating (design) temperature of the catalyst. As with RTO, we feel it is incumbent upon the facility to demonstrate performance and establish the operating limits during the compliance demonstration test. Therefore, the final rule requires the facility to establish the minimum catalytic oxidizer operating temperature during the compliance test. However, as noted below, we have provided more flexibility to the facility regarding temperature monitoring for RTO and RCO.

We recognize that in a typical RTO and RCO the combustion chamber contains multiple burners, and that each of these burners may have multiple thermocouples for measuring the temperature associated with that burner. The final rule requires establishing and monitoring a minimum firebox temperature for RTO. In an RTO, the minimum firebox temperature is actually represented by multiple temperature measurements for multiple burners within the combustion chamber. Thus, the final rule

clarifies that facilities operating RTO may monitor the temperature in multiple locations within the combustion chamber and calculate the average of the temperature measurements to use in establishing the minimum firebox temperature operating limit.

Regarding RCO, we agree with the commenters that, because the gas flow reverses direction in RCO, the inlet temperature monitor will not consistently measure the gas at the same point in the process, such that sometimes the gas temperature will be recorded after the catalyst beds instead of at the inlet to the beds. We did not intend to require the separate measurement of each inlet temperature by switching the data recording back and forth to coincide with the flow direction into the bed. The intention is to monitor the minimum temperature of the gas entering the catalyst to ensure that the minimum temperature is maintained at the operating level during which compliance was demonstrated. This can be accomplished by measuring the temperature in the regenerative canisters at one or more locations. Measuring the inlet temperatures of each catalyst bed and then determining the average temperature for all catalyst beds is one approach. Even though some of the beds are

cooling and others are heating, the average across all of the catalyst beds should not vary significantly. Another acceptable alternative is monitoring the combustion chamber temperature, as suggested by the commenters. The monitoring location(s) selected by the facility may depend on the operating conditions (i.e., THC loading to the unit) during the performance test and how the unit is expected to be operated in the future. The objective is to establish monitoring and operating limits that are representative of the conditions during the compliance demonstration test(s) and representative of the temperature to which the catalyst is exposed. We recognize the need for flexibility in selecting the temperature(s) to be monitored as operating limits for RCO. Therefore, the final rule provides flexibility by allowing facilities with RCO to choose between basing their minimum RCO temperature limit on the average of the inlet temperatures for all catalyst beds or the average temperature within the combustion chamber. If there are multiple thermocouples at the inlet to each catalyst bed, then we would expect facilities to average the measurements from each thermocouple to provide a representative catalyst bed inlet temperature for each

individual catalyst bed.

Finally, the final rule also includes an option (in lieu of monitoring oxidizer temperature) for monitoring and maintaining the oxidizer outlet THC concentration at or below the operating limit established during the performance test. Use of the THC monitoring option would eliminate the concerns regarding establishing and monitoring oxidizer operating temperatures (in effect, it provides facilities complete flexibility in operation of the control device, as long as the THC outlet concentration remains below the operating limit).

Comment: One commenter recommended that we require sampling and testing of the catalyst activity level for RCO. The commenter stated that the proposed requirement to monitor inlet pressure may not be sufficient to detect catalyst problems such as poisoning, blinding, or degradation.

Response: We agree with the commenter that a catalyst activity level check is needed because catalyst beds can become poisoned and rendered ineffective. An activity level check can consist of passing an organic compound of known concentration through a sample of the catalyst, measuring the percentage reduction of the compound across

the catalyst sample, and comparing that percentage reduction to the percentage reduction for a fresh sample of the same type of catalyst. Generally, the PCWP facility would remove a representative sample of the catalyst from the catalytic oxidizer bed and then ship the sample to a testing company for analysis of its ability to oxidize organic compounds (e.g., by a flame ionization detector).

In response to this comment, we added to the final rule a requirement for facilities with catalytic oxidizers to perform an annual catalyst activity check on a representative sample of the catalyst and to take any necessary corrective action to ensure that the catalyst is performing within its design range. Corrective actions may include washing or baking out the catalytic media, conducting an emissions test to ensure the catalytic media is resulting in the desired emissions reductions, or partial or full media replacement. Catalysts are designed to have an activity range over which they will reduce emissions to the desired levels. Therefore, the final rule specifies that corrective action is needed only when the catalyst activity is outside of this range. It is not our intention for

facilities to replace catalyst if the catalytic media is not performing at the maximum level it achieved when the catalyst was new. Also, the final rule specifies that the catalyst activity check must be done on a representative sample of the catalyst to ensure that facilities that may have recently conducted a partial media replacement do not sample only the fresh catalytic media for the catalyst activity check.

Comment: Several commenters stated that the proposed operating requirements for pressure drop across the biofilter bed should be removed from the final PCWP rule. The commenters contended that pressure drop is a good parameter to monitor voluntarily because it indicates the permeability and age of the biofilter bed, helping to determine maintenance and replacement needs; however, it is not an indicator of destruction efficiency. The commenters noted that, because of normal wear and tear, the pressure drop gradually increases over the 2- to 5-year life span of the biofilter, so it would not be possible to maintain a constant operating pressure. The commenters further noted that the supporting materials in the project docket did not provide any information or data that would support the idea that pressure drop is an

indication of HAP destruction efficiency, but only indicated that pressure drop was an indication of the age of the biofilter. For these reasons, the commenters argued that setting an absolute limit on pressure drop was inappropriate.

The commenters also requested that the proposed requirements to monitor the pH of the biofilter bed effluent be removed from the final PCWP rule. The commenters noted that pH is a good parameter to monitor voluntarily because it indicates the environmental conditions inside the biofilter bed and can indicate the presence of organic acids and THC decomposition products, but it is not a reliable indicator of destruction efficiency. According to the commenters, small fluctuations of pH are expected and have little effect on the biofilter performance; therefore, the narrow range of pH values that would be established as an operating range by the initial compliance tests should not be used alone to determine biofilter performance. The commenters also noted some problems associated with continuous measurement of pH. According to the commenters, some biofilter units operate with periodic irrigation of the bed, such that the effluent flow is not constant and

continuous monitoring is not possible. The commenters also pointed to an NCASI survey that confirmed that continuous pH monitoring would be impractical for the facilities surveyed. The commenters stated that, because none of the PCWP facilities surveyed could find a link between pH alone and biofilter performance, none of those facilities currently have continuous pH monitors on their biofilters.

In addition, several commenters requested changes to the proposed requirement to monitor the inlet temperature of the biofilter. These commenters agreed that temperature is a parameter that should be monitored for biofilters, but argued that the location of the temperature monitor should be changed from the biofilter inlet to the biofilter bed or biofilter outlet. The commenters noted that the biofilter bed temperature has the greatest impact on biological activity. According to the commenters, the biofilter inlet temperature is not a good indicator of bed temperature and can change very rapidly depending upon the operating rate of the press, the humidity, and the ambient temperature.

Response: We agree with the commenters that increases in pressure drop will occur over time and will not

necessarily equate to a reduction in control efficiency, making an absolute limit on pressure drop ineffective in demonstrating continuous compliance. Therefore, we have not included the requirement to monitor pressure drop in the operating requirements for biofilters in the final PCWP rule. We have also removed the requirement to monitor pH from the final rule. Although pH is an indicator of the health of the microbial population inside the biofilter, we agree with the commenters that including continuous pH monitoring as an operating requirement for biofilters may not be appropriate.

We also agree with the commenters that the biofilter bed temperature has the greatest impact on biological activity and that the location for monitoring the biofilter temperature should be changed. We did not propose monitoring of biofilter bed temperature because we thought that monitoring of biofilter inlet temperature would be simpler because only one thermocouple would be required. The temperature inside the biofilter bed can change in different areas of the bed, and therefore, depending on the biofilter, multiple thermocouples may be necessary to get an accurate picture of the temperature conditions inside the biofilter bed. Prior to proposal

we rejected the idea of monitoring the biofilter exhaust temperature because temperature measured at this location can be affected by ambient temperature (especially for biofilters with short stacks) more than the temperature inside the biofilter bed. We now conclude that there is no better, more representative way to monitor the temperature to which the biofilter microbial population is exposed than to directly monitor the temperature of the biofilter bed. According to our MACT survey data, most facilities with biofilters are already monitoring biofilter bed temperature. Therefore, the final rule requires continuous monitoring of the temperature inside the biofilter bed.

The proposed rule would have allowed facilities to specify their own monitoring methods, monitoring frequencies, and averaging times for the proposed biofilter operating parameters (i.e., inlet temperature, effluent pH, and pressure drop). However, monitoring of temperature is not as subjective as monitoring biofilter effluent pH and pressure drop; therefore, as an outgrowth of our decision to not require monitoring of biofilter effluent pH and pressure drop, the final rule specifies the monitoring method, frequency, and averaging time for

biofilter bed temperature monitoring. The final rule requires that each thermocouple be placed in a representative location and clarifies that multiple thermocouples may be used in different locations within the biofilter bed. The temperature data (i.e., average temperature across all the thermocouples located in the biofilter bed if multiple thermocouples are used) must be monitored continuously and reduced to a 24-hour block average. A 24-hour block average was selected for biofilter temperature monitoring because we recognize that there may be some diurnal variation in temperature. Facilities wishing to reflect a diurnal temperature variation when establishing their biofilter temperature may wish to perform some test runs during peak daily temperatures and other test runs early in the morning, when temperatures are at their lowest.

Facilities may choose to observe parameters other than biofilter bed temperature, but will not be required to record or control them for the final PCWP rule. We feel that many factors can affect biofilter performance, either alone (e.g., a media change) or in concert with one another (e.g., a loss of water flow results in a sharp change in temperature and pH). The factors that

have the greatest effect on biofilter performance are likely to be site-specific. However, based on the comments we have received, we conclude that extensive biofilter parameter monitoring is not the best method for ensuring continuous compliance. To promote enforceability of the final PCWP rule, we have added a requirement to perform periodic testing of biofilters. The final rule requires facilities to conduct a repeat test at least every 2 years and within 180 days after a portion of the biofilter bed is replaced with a new type of media or more than 50 percent (by volume) of the biofilter media is replaced with the same type of media. Each repeat test must be conducted within 2 years of the previous test (e.g., 2 years after the initial compliance test, or 2 years after the test following a media change). We are requiring repeat testing after a partial or wholesale change to another media type (considered a modification of the biofilter) because such a modification can impact the performance of the biofilter. Facilities that replace biofilter media with a new type of media (e.g, bark versus synthetic media) must also re-establish the limits of the biofilter bed temperature range. We feel that substantial replacement of the

biofilter media (e.g., replacement of more than 50 percent of the media) with the same type of media may affect short-term performance of the biofilter while the replacement media becomes acclimated, and therefore, the final rule requires a repeat performance test following this type of media replacement. However, PCWP facilities that replace biofilter media with the same type of media are not required to re-establish the biofilter bed temperature range. In the case of same-media replacements, we feel it is appropriate for PCWP facilities to be able to use data from previous performance tests to establish the limits of the temperature range. During repeat testing following replacement with the same type of media, facilities can verify that the biofilter remains within the temperature range established previously or establish a new compliant temperature range. Facilities using a THC CEMS that choose to comply with the THC compliance options (i.e., 90 percent reduction in THC or outlet THC concentration less than or equal to 20 ppmvd) may use the data from their CEMS in lieu of conducting repeat performance testing.

Comment: Several commenters requested that the final

rule allow new biofilters a longer period than 180 days to establish operating parameter levels. These commenters suggested a 1-year period, because that would be long enough to observe the full seasonal variation in parameters and find the true operating maxima and minima.

Response: We disagree that more than 180 days is necessary to establish operating parameter limits for biofilters. As mentioned previously, we have eliminated the proposed requirement to establish operating limits for pH and pressure drop. Today's final rule contains two options for biofilter operating parameter limits: biofilter bed temperature range and outlet THC concentration. While allowing 1 year to establish the biofilter bed temperature operating range is reasonable due to seasonal temperature variations, 1 year is not necessary for establishing an outlet THC concentration limit. Furthermore, the final rule already allows facilities to expand their operating ranges (see §63.2262(m)(3)) through additional emissions testing.

The compliance date for existing facilities is 3 years after promulgation of the final PCWP rule, and existing facilities are allowed 180 days following the compliance date to conduct performance testing and establish the

operating parameter limits. If there is concern that 180 days is not long enough for a new biofilter installation to operate under the full range of biofilter bed temperatures, then existing facilities should begin operation of their biofilter well before the compliance date (e.g., 180 days prior to the compliance date if 1 year is needed). Facilities also have the option of testing their biofilter prior to the compliance date to establish one extreme of their biofilter bed temperature range. The compliance date for new PCWP facilities is the effective date of the rule (if startup is before the effective date) or upon initial startup (if the initial startup is after the effective date of the rule), and biofilters installed at new PCWP facilities would have up to 180 days following the compliance date to establish the operating parameter limits. To address situations where a new biofilter is installed at an existing facility more than 180 days after the compliance date (e.g., to replace an existing RTO), we have included section §63.2262(m)(2) to the final PCWP rule, which allows existing sources that install new biofilters up to 180 days following the initial startup date of the biofilter to establish the operating parameter limits.

Thus, new biofilter installations are given time for establishment of operating parameter limits regardless of where they are installed at new or existing sources.

Comment: Multiple commenters supported the option to continuously monitor THC at control device outlets to demonstrate compliance, but suggested that either the procedure for determining the operating limits or the length of the averaging periods be altered. The commenters stated that THC concentration at a control device outlet is not a parameter that can be easily adjusted by operators over short periods of time. The commenters stated that 3 hours is not a long enough block to avoid deviations from compliance given the variability of the process. The commenters provided an analysis of THC data from a biofilter outlet that showed multiple deviations occurring over a two month period when a 3-hour block average was used and few to zero deviations when a 24-hour or 7-day block average was used for the operating limits. The commenters stated that because HAP destruction efficiency of biofilters does not vary much with time, the longer block average would not be environmentally harmful.

Response: While THC emissions at the outlet of a

biofilter may vary, the THC emissions at the outlet of a thermal or catalytic oxidizer should not vary greatly. Although, as stated by the commenters, the HAP destruction efficiency of biofilters is not subject to large short-term variations, the same is not true for thermal and catalytic oxidizers (e.g., a sudden significant decrease in temperature could result in a sudden decrease in HAP reduction). Therefore, we feel it is appropriate to maintain the 3-hour block averaging requirement for THC monitoring for thermal and catalytic oxidizers. However, we have expanded the THC averaging requirement for biofilters to a 24-hour block average to provide more flexibility. The THC operating limit for biofilters would be established as the maximum of three 15-minute recorded readings during emissions testing. We also note the continuous monitoring of THC is not required for all APCD, but is an alternative to continuous monitoring of temperature. Furthermore, facilities can conduct multiple performance tests at different operating conditions to increase their maximum THC concentration operating limit.

6. Selection of Monitoring Requirements for Uncontrolled Process Units

Comment: Several commenters recommended that we change the title of proposed §63.2262 (n) (How do I conduct performance tests and establish operating requirements? - Establishing uncontrolled process unit operating requirements) to “Establishing operating requirements for production-based compliance option process units” for the final rule. The commenters stated that the proposed title implied that no controls of any kind are being applied to these process units, when in fact facilities may be using P2 techniques to reduce emissions. The commenters also objected to wording within the proposed section that suggests that temperature is the only parameter affecting HAP emissions from the process units. The commenters suggested that the requirements be revised in the final rule to give sources more flexibility in identifying and documenting those process unit operating parameters that are critical to maintaining compliance with the PBCO limits.

Response: At proposal, our intention was to establish operating requirements for those process units complying with rule requirements without the use of an APCD. There are two situations in the PCWP rule as proposed where process units may not have an add-on control device: (1)

when process units meet the PBCO, or (2) when process units used to generate emissions averaging debits do not have an add-on APCD that partially controls emissions. To clarify this for the final rule and to address the commenters' concern regarding applicability of §63.2262(n), we changed the title of the section to "Establishing operating requirements for process units meeting compliance options without a control device."

We agree with the commenters that temperature alone is not necessarily the sole factor affecting HAP emissions from some process units. A variety of factors can affect HAP emissions, and the controlling parameter for one process unit may be different than the controlling parameter for another process unit. Therefore, the final rule gives sources more flexibility in selecting and establishing operating limits for process units without add-on controls. The final rule requires facilities to identify and document the operating parameter(s) that affect HAP emissions from the process unit and to establish appropriate monitoring methods and monitoring frequencies. We recognize that it is not practical to continuously monitor every process-unit-specific factor that could affect uncontrolled emissions (e.g., there is

no way to monitor and determine a 3-hour block average of wood species mix for a particleboard plant). However, some parameters are suitable for continuous monitoring (e.g., process operating temperature, furnish moisture content) and are already monitored as part of normal operation but not for compliance purposes. We feel that daily records of most parameters would be sufficient to ensure ongoing compliance (e.g., daily average process operating temperature, furnish moisture, resin type, wood species mix) if the parameters do not deviate from the ranges for these parameters during the initial compliance test. Therefore, in the final PCWP rule, we have replaced the proposed 3-hour block average temperature monitoring requirements for process units without control devices with a requirement to maintain, on a daily basis, the process unit operating parameter(s) within the ranges established during the performance test. This gives facilities the flexibility to decide which parameters they will monitor and control, while providing enforcement personnel with records that can be used to assess and compare the day-to-day operation of the process unit to the controlling operating parameters. Facilities are also allowed to decide for each parameter

the appropriate monitoring methods, monitoring frequencies, and averaging times (not to exceed 24 hours for continuously monitored parameters such as temperature and wood furnish moisture). Also, to ensure that the HAP emissions measured during the compliance tests are representative of actual emissions, the final rule requires testing at representative operating conditions, as defined in the rule.

7. Data Collection and Handling

Comment: Several commenters requested clarifications and changes to the proposed requirements related to data collection and handling for CPMS. The commenters stated that the requirement that a valid hour of data must include at least three equally spaced data values for that hour is ambiguous and should be revised. The commenters recommended that the final rule require facilities to average at least three data points taken at constant intervals, provided the interval is less than or equal to 15 minutes. The commenters further noted that a better approach would be to drop the concept of an hourly average altogether and simply calculate the block average as the average of all evenly spaced measurements in the block period with a maximum measurement interval of 15

minutes. The commenters also noted that the proposed rule did not specify how to calculate the 3-hour block average when one or more of the individual hours does not contain at least three valid data values.

Commenters also requested that the final rule consolidate and clarify the requirements in proposed §§63.2268 and 63.2270 regarding data that should be excluded from block averages. The commenters recommended that the final rule explicitly state that any monitoring data taken during periods when emission control equipment are not accepting emissions from the production processes should be excluded from hourly or block averages. The commenters also noted inconsistencies in the proposed rule language that seemed to imply that data collected during production downtime and SSM events would be included in the hourly averages but not in the block averages. The commenters stated that, because SSM events occur when the process is not in operation, there is no need to collect data from these periods.

Response: We agree with the commenters that the proposed rule language regarding acceptable data and data averaging was somewhat ambiguous and have revised the language accordingly. Following the commenters'

recommendation, we removed the concept of an hourly average from the final rule to allow block averages to be calculated as the average of all evenly spaced measurements in the 3-hour or 24-hour block period with a maximum measurement interval of 15 minutes. In place of the requirement for a valid hourly average to contain at least three equally spaced data values for that hour, we added a minimum data availability requirement. The minimum data availability requirement specifies that to calculate data averages for each 3-hour or 24-hour averaging period, you must have at least 75 percent of the required recorded readings for that period using only recorded readings that are based on valid data. The minimum data availability requirement appears in §63.2270(f) of today's final rule. To clarify what constitutes valid data and how to calculate block averages, we rearranged proposed §§63.2268 and 63.2270. We moved proposed §63.2268(a)(3) and (4) to final §63.2270 (now §63.2270(d) and (e)) of today's final rule. Rather than repeating which data should be excluded from data averages in §63.2270(d) and (e), these new sections now refer to §63.2270(b) and (c) when discussing data that should not be included in data averages. We also

added data recorded during periods of SSM to the list of data that should be excluded from data averages in §63.2270. We feel these changes to the structure and wording of the rule should fully address the commenters' concerns.

Comment: Several commenters noted that the proposed PCWP rule does not provide any alternatives to the definition of a 1-hour period found in the MACT general provisions (40 CFR 63.2), which states that a 1-hour period is any 60-minute period commencing on the hour. These commenters requested that facilities be given the option of beginning a 1-hour period at a time that is convenient depending on shift changes, employee duties at the end of a shift, and settings on the systems that record data.

Response: We agree with the commenters and have included a definition of 1-hour period in today's final rule that omits the phrase "commencing on the hour."

8. Performance Specifications for CPMS

Comment: Several commenters requested that we write sections of the final rule language that address temperature measurement. The commenters stated that the phrase "minimum tolerance of 0.75 percent," found in

proposed sections 63.2268(b)(2), 63.2268(c)(3), and 63.2268(e)(2), should be revised to read “accurate within 0.75 percent of sensor range.” The commenters argued that, because tolerances usually refer to physical dimensions, this revision more accurately reflects the intent of the final PCWP rule. Commenters also recommended that the sensitivity for chart recorders be changed from a sensitivity in the minor division of at least 20°F to minor divisions of not more than 20°F. The commenters noted that the wording in the proposed rule means that minor divisions could be 30°F or 50°F, but assumed that we probably meant that 20°F is the largest minor division that a facility can use, and therefore, stated that the suggested revision is more accurate.

Response: We agree that the proposed temperature measurement requirements should be clarified. In today’s final rule, we wrote the requirement in §63.2269(b)(2) (formerly proposed §63.2268(b)(2)) to read “minimum accuracy of 0.75 percent the temperature value.” We eliminated proposed sections §§63.2268(c) and 63.2268(e) from the final rule because we removed the requirements for monitoring of pressure or flow. We also wrote proposed §63.2268(b)(3) to state that “If a chart

recorder is used, it must have a sensitivity with minor divisions of not more than 20°F."

Comment: Several commenters requested changes to the proposed work practice requirements for dry rotary dryers and veneer redryers related to moisture monitoring. The commenters noted that the proposed requirement to use a moisture monitor with a minimum accuracy of 1 percent was appropriate for rotary dry dryers in the 25 to 35 percent moisture content range. However, the commenters stated that less stringent accuracy requirements should be included for veneer redryers to better correspond with current practices at softwood plywood and veneer facilities. Specifically, the commenters requested that the final rule revise the proposed performance specifications for moisture monitors for veneer redryers to allow the use of monitors with an accuracy of ±3 percent in the 15 to 25 percent moisture range. Several commenters also requested that the proposed calibration procedures for moisture monitors be revised in the final rule to eliminate grab sampling and to allow facilities to follow the calibration procedures recommended by the manufacturer. The commenters argued that the proposed grab sampling procedure is impractical and that obtaining

a representative grab sample would be difficult.

Response: We agree with the commenters that the proposed moisture monitoring requirements should be adjusted in the final rule and have made the requested changes to the accuracy requirements for moisture monitors used with rotary dry dryers and veneer redryers. We have also adjusted the calibration procedures in the final rule to eliminate grab sampling and to allow facilities to follow the manufacturer's recommended calibration procedures for moisture monitors.

I. Routine Control Device Maintenance Exemption (RCDME)

Comment: Several commenters requested that the proposed requirements for the RCDME be modified in the final rule to give PCWP facilities more flexibility. First, the commenters requested that the proposed RCDME allowances (expressed as a percentage of the process unit operating hours) be increased. The commenters argued that the proposed downtime allowance periods are too short to allow for proper maintenance. The commenters noted that the NCASI survey that was used to set the downtime allowance only included data from 1999, and many facilities may have conducted nonannual maintenance and repairs in the years preceding or following that year.

According to the commenters, the 1999 survey was also limited in that the majority of the RTO included in the survey were less than 5 years old, and as the equipment ages over a lifetime of 5 to 15 years, performance will degrade below the levels seen in the 1999 survey. Therefore, the commenters suggested that we reexamine the NCASI downtime data and use the 79^{th} percentile instead of the 50^{th} percentile to select downtime allowances that represent the time needed for nonannual events.

Response: After reviewing our previous analysis of the downtime data, we maintain that the percentage downtime we proposed (3 percent for some process units and 0.5 percent for others) calculated on an annual basis is appropriate for the final PCWP rule. The downtime allowance allowed under the RCDME is intended to allow facilities limited time to perform routine maintenance on their APCD without shutting down the process units being controlled by the APCD. We included the downtime allowance in the proposed rule because we recognize that frequent maintenance must be performed to combat particulate and salt buildup in some RTO and RCO for PCWP drying processes. The downtime allowance is not intended to cover every APCD maintenance activity, only those

maintenance activities that are routine (e.g., bakeouts, washouts, partial or full media replacements) and do not coincide with process unit shutdowns. Most APCD maintenance should occur during process unit shutdowns; the RCDME is a downtime allowance in addition to the APCD maintenance downtime that occurs during process unit shutdowns. We note that most PCWP plants do not operate 8,760 hours per year without shutdowns. For example, the MACT survey responses indicate that softwood plywood plants operate for an average 7,540 hours per year, which would allow 1,220 hours for control device maintenance without the RCDME. Furthermore, the RCDME is allowed in addition to APCD downtime associated with SSM events covered by the SSM plan (e.g., electrical problems, mechanical problems, utility supply problems, and pre-filter upsets). For these reasons, the final rule retains the RCDME allowances included in the proposed rule.

Comment: Several commenters objected to the proposed requirement that the maintenance be scheduled at the beginning of the semiannual period. The commenters argued that scheduling maintenance activities at the beginning of each semiannual period is neither consistent

with industry practice nor practical. The commenters noted that downtime for maintenance is scheduled as the need arises, and downtime schedules change with need and production requirements. The commenters stated that most facilities have a general idea of when they intend to conduct routine maintenance activities and will schedule those activities whenever possible to coincide with process downtime as it approaches. The commenters further noted that the proposed PCWP rule does not clarify what would happen if maintenance were necessary before the scheduled date. Therefore, the commenters concluded that deleting the requirement to set the maintenance schedule at the beginning of each semiannual period would eliminate confusion and better represent industry practice.

Response: We agree with the commenters and have removed the requirement to record the control device maintenance schedule for the semiannual period from the final rule. We agree that the proposed requirement would be impractical because process unit shutdowns are not scheduled semiannually. Also, the SSM provisions do not require scheduling of maintenance, and therefore, requiring scheduling of routine maintenance covered under

the RCDME would be more restrictive than the requirements for SSM. To the extent possible, APCD maintenance should be scheduled at the same time as process unit shutdowns. Thus, today's final rule retains the requirement that startup and shutdown of emission control systems must be scheduled during times when process equipment is also shut down.

Comment: Commenters also requested that the proposed RCDME requirement that facilities must minimize emissions to the greatest extent possible during maintenance periods be revised to require that facilities make reasonable efforts to minimize emissions during maintenance. The commenters stated that this revision is necessary because the proposed wording could be interpreted to mean that sources should limit production or shut down entirely during maintenance periods, which is contrary to the intent of the RCDME.

Response: We agree with the commenters and have modified the referenced requirement as suggested by the commenters.

J. Startup, Shutdown, and Malfunction (SSM)

Comment: Several commenters noted inconsistencies between the proposed rule and the NESHAP General

Provisions (40 CFR part 63, subpart A) and requested that these inconsistencies be resolved by making the final PCWP rule consistent with the latest version of the General Provisions.

Response: Approximately 1 month prior to publication of the proposed PCWP rule, we published proposed amendments to the NESHAP General Provisions concerning SSM procedures (67 FR 72875, December 9, 2002) and promulgated them in May 2003 (68 FR 32585, May 30, 2003). Due to the timing of the these rulemakings, the proposed PCWP rule language did not reflect our most recent decisions regarding SSM. To avoid confusion and promote consistency, we have written the final rule to reference the NESHAP General Provisions directly, where applicable, and to be more consistent with other recently promulgated MACT standards. Although the amendments to the NESHAP General Provisions regarding SSM plans are currently involved in litigation, the rule requirements promulgated on May 30, 2003, apply to the final PCWP NESHAP unless and until we promulgate another revision. In response to suggestions made by commenters, we also consolidated several sections to clarify the requirements related to SSM and to eliminate redundancies in the final rule.

Specifically, we combined proposed §63.2250(d) with proposed §63.2250(a) and revised the resulting §63.2250(a) to clarify that the SSM periods mentioned in proposed §63.2250(a) apply to both process units and control devices and to clarify when the compliance options, operating requirements, and work practice requirements do and do not apply. We also removed proposed §63.2250(e) from the final rule because it was a duplication of proposed §63.2251(e) regarding control device maintenance schedules. In addition, we removed proposed §63.2250(f) related to RCO catalyst maintenance because this section was misplaced and is not consistent with the RCO monitoring requirements in today's final rule.

K. Risk-Based Approaches

1. General comments

Risk-based approaches

Comment: Numerous commenters encouraged EPA to incorporate risk-based options which would exclude facilities that pose no significant risk to public health or the environment. Commenters stated that inclusion of risk provisions has the potential to achieve overall environmentally superior results in a cost-effective

manner, particularly in cases where criteria pollutants from control devices (i.e., incinerators) may result in greater impacts that the HAP emissions that they control. In particular, the commenter referred to EPA's projection that adoption of MACT floor level controls would result in increased emissions of NOx, a precursor to ozone and PM. According to the commenter, the proposed rule (without risk provisions) would work against the industry's voluntary commitment to reduce the emissions of greenhouse gases by 12 percent over the next 10 years. The commenter concluded that, in its proposed form, the rule would impose significant additional cost with virtually no gain to either the environment or the health. The commenter stated that facilities wishing to take advantage of the risk-based exemption would take a federally-enforceable permit limit that would guarantee that their emissions remain below the risk-based emission standard. This would constitute an emission limitation, within the statutory definition of the term, and it would allow facilities to forego the installation of incinerators where they are not warranted by public health and environmental considerations, the commenter claimed.

Some commenters argued that the risk-based options are legally justified, protective of human health and the environment, and economically sensible. These commenters stated that the risk-based options are supported under the CAA, through EPA's authority under sections 112(d)(4) and 112(c)(9) to set emission standards other than MACT for certain low-risk facilities and delist technology-defined low-risk subcategories, respectively, and through what they claimed is EPA's inherent de minimis authority to avoid undertaking regulatory action in the absence of meaningful risk. One commenter pointed out that, by meeting the stringent health benchmarks necessary to qualify for the risk-based compliance approaches, facilities already would have satisfied the residual risk provisions 8 years ahead of the statutory requirements set forth in section 112(f) of the CAA.

Two commenters believed that the risk-based approach would particularly benefit small mills located in rural areas with timber-dependent economies. One commenter stated that, by offering manufacturers an opportunity to apply for subcategorization on a site-specific basis, facilities that are remotely located, or which were originally planned and sited with thorough consideration

of airshed impacts, would not be unduly burdened with MACT requirements which yield little or no public health benefits.

Some commenters argued that such low-risk facilities should not be burdened with the requirements of MACT. One commenter noted that the regulatory framework exists within their State to implement a risk-based approach. Another commenter agreed with the concept of a risk-based approach but stated that it would not be appropriate for State and local programs to determine which facilities should be exempted from MACT. Another commenter suggested that exemptions be provided on a case-by-case basis to individual facilities that are able to demonstrate that they pose no significant risk to public health or the environment.

Several commenters opposed the risk-based exemptions. Two commenters stated that the use of risk-based concepts to evade MACT applicability is contrary to the intent of the CAA and is based on a flawed interpretation of section 112(d)(4) written by an industry subject to regulation. One commenter added that the CAA requires a technology-based floor level of control and does not provide exclusions for risk or secondary impacts in

applying the MACT floor. The other commenter was concerned about industry's unprecedented proposal to include de minimis exemptions and cost in the MACT standard process. The commenter stated that including case-by-case risk-based exemptions would jeopardize the effectiveness of the national air toxics program to adequately protect public health and the environment and to establish a level playing field. A third commenter noted that subcategorization and source category deletions under CAA section 112(c) have been implemented several times since the MACT program began.

Some commenters pointed out that they have not been able to comment on the technical merit of the risk analysis employed by the EPA. They argued that, until the residual risk analysis procedures have been implemented via the CAA section 112(f) process, risk analysis should not be used in making MACT determinations pursuant to CAA section 112(d)(4). Also, risk analysis could never be used to establish a MACT floor.

One commenter pointed out that, in separate rulemakings and lawsuits, EPA adopted legal positions and policies that they claimed refute and contradict the very risk-based and cost-based approaches contained in the

proposal. In these other arenas, EPA properly rejected risk assessment to alter the establishment of MACT standards. The EPA also properly rejected cost in determining MACT floors and in denying a basis for avoiding the MACT floor.

Response: We feel that the assertions by one commenter about the environmental disbenefits of the PCWP rule as proposed are overstated. We disagree that the PCWP industry as a whole poses a small-to-insignificant risk to human health and the environment. However, we acknowledge that there are some PCWP affected sources that pose little risk to human health and the environment. Consequently, we have included an option in today's final PCWP rule that would allow individual affected sources to be found eligible for membership in a delisted low-risk subcategory if they demonstrate that they do not pose a significant risk to human health or the environment. The low-risk subcategory delisting in today's final PCWP rule is based on our authority under CAA sections 112(c)(1) and (9). The statute requires that categories or subcategories meet specific risk criteria in order to be delisted. To determine whether source categories and subcategories, and their

constituent sources, meet these criteria, risk analyses may be used. We disagree with the commenter that we must wait for implementation of CAA section 112(f) before utilizing risk analysis in this manner. Section 112(d)(1) of the CAA gives us the authority to distinguish among classes, types, and sizes of sources within a category, and CAA section 112(c)(1) does not restrict our authority to base categories and subcategories on other appropriate criteria. As discussed in more detail elsewhere in this notice, we feel these provisions of the CAA allow us to define a subcategory of sources in terms of risk. Thus, the low-risk subcategory of PCWP affected sources is defined in terms of risk, not cost. We are not subcategorizing or determining MACT floors based on cost. Furthermore, because most affected sources will make their low-risk demonstrations following promulgation of today's final PCWP rule, the MACT level of emissions reduction required by today’s final rule is not affected by affected sources becoming part of the low-risk subcategory.

We are not pursuing the risk-based exemptions based on CAA section 112(d)(4). We do not feel that a risk-based approach based on section 112(d)(4) is appropriate for

the PCWP industry because PCWP facilities emit HAP for which no health thresholds have been established and because the legislative history of the 1990 Amendments to the CAA indicates that Congress considered and rejected allowing us to grant such source-specific exemptions from the MACT floor. We also are not relying on de minimis authority. Legal issues associated with the risk-based provisions are addressed elsewhere in this preamble.

In today's final PCWP rule, we are identifying the criteria we will use to identify low-risk PCWP affected sources and requesting that any candidate affected sources, in addition to the affected sources already identified as low risk in today's action, submit information to us based on those criteria so that we can evaluate whether they might be low-risk. Today's final PCWP rule also establishes a low-risk PCWP subcategory based on the criteria (and including several identified affected sources) and delists the subcategory based on our finding that no source that would be eligible to be included in the subcategory based on our adopted criteria emits HAP at levels that exceed the thresholds specified in section 112(c)(9)(B) of the CAA. To be found eligible to be included in the delisted source category, affected

sources will have to demonstrate to us that they meet the criteria established by today's final PCWP rule and assume federally enforceable limitations that ensure their HAP emissions do not subsequently increase to exceed levels reflected in their eligibility demonstrations.

The criteria defining the low-risk subcategory of PCWP affected sources are included in appendix B to subpart DDDD of 40 CFR part 63. The criteria in the appendix were developed for and apply only to the PCWP industry and are not applicable to other industries. Today's final PCWP rule provides two ways that a affected source may demonstrate that it is part of the low-risk subcategory of PCWP affected sources. First, look-up tables allow affected sources to determine, using a limited number of site-specific input parameters, whether emissions from their sources might cause a hazard index (HI) limit for noncarcinogens or a cancer benchmark of one in a million to be exceeded. Second, a site-specific modeling approach can be used by those affected sources that cannot demonstrate that they are part of the low-risk subcategory using the look-up tables.

The low-risk subcategory delisting that is included in

today’s final PCWP rule is intended to avoid imposing unnecessary controls on affected sources that pose little risk to human health or the environment. Facilities will have to select controls or other methods of limiting risk and then demonstrate, using appendix B to subpart DDDD of 40 CFR part 63 and other analytical tools, such as the “Air Toxics Risk Assessment Reference Library,” if appropriate in a source's case, that their emissions qualify them to be included in the low-risk subcategory, and, therefore, to not be subject to the MACT compliance options included in today’s final PCWP rule.

Comment: Several commenters objected to EPA using the preambles of individual rule proposals as the forum for introducing significant changes in the way that MACT standards are established. The commenter believed that allowing risk-based exemptions requires statutory changes. A third commenter expressed concern that other parties may miss commenting on the risk-based exemptions because they are contained within six separate proposals. The commenter added that to give the issue full consideration, the risk provisions should not be adopted within any of the final rules but should be addressed in one place, such as in revisions to the General Provisions

of 40 CFR part 63, subpart A.

Response: The discussion of risk-based provisions in MACT was included in individual proposals for several reasons. First, we recognize that such provisions might only be appropriate for certain source categories, and our decision-making process required source category-specific input from stakeholders. Second, the 10-year MACT standards, which are now being completed, are the last group of MACT standards currently planned for development, and for any risk provisions to be useful, the provisions must be finalized in a timely manner. We do not agree that statutory changes are necessary because of the discretion provided to the Administrator under CAA section 112(d)(1) to distinguish among classes, types, and sizes of sources within a category and under CAA section 112(c)(1) to base categories and subcategories on any appropriate criteria. We consider low-risk affected sources to be an appropriate subcategory of sources within the PCWP source category.

Comment: Several commenters stated that the risk-based exemption proposal removes the level playing field that would result from the proper implementation of technology-based MACT standards. According to the

commenters, establishing a baseline level of control is essential to prevent industry from moving to areas of the country that have the least stringent air toxics programs, which was one of the primary goals of developing a uniform national air toxics program under section 112 of the 1990 CAA amendments. The commenters argued that risk-based approaches would jeopardize future reductions of HAP in a uniform and consistent manner across the nation. One commenter stated that National Air Toxics Assessment (NATA) data show that virtually no area of the country has escaped measurable concentrations of toxic air pollution. The NATA information indicates that exposure to air toxics is high in both densely populated and remote rural areas.

One commenter disagreed with the assertion that the level playing field would be removed. The commenter pointed out that the argument that EPA should impose unnecessary and potentially environmentally damaging controls for the sole purpose of equalizing control costs across facilities would be at odds with the stated purpose of the CAA. According to the commenter, the claim that the risk-based approach would favor facilities located away from population centers is incorrect. As

contemplated, the risk-based approaches to the NESHAP would be keyed to the comparison of health benchmarks with reasonable maximum chronic and acute exposures. According to the commenter, the presence or absence of human populations would have no effect on whether facilities would qualify.

Response: We agree that one of the primary goals of developing a uniform national air toxics program under section 112 of the 1990 CAA amendments was to establish a level playing field. We do not feel that defining a low-risk subcategory in today's final PCWP rule does anything to remove the level playing field for PCWP facilities. Today's final PCWP rule and its criteria for demonstrating eligibility for the delisted low-risk subcategory apply uniformly to all PCWP facilities across the nation. Today's final PCWP rule establishes a baseline level of emission reduction or a baseline level of risk (for the low-risk subcategory). All PCWP affected sources are subject to these same baseline levels, and all facilities have the same opportunity to demonstrate that they are part of the delisted low-risk subcategory. The criteria for the low-risk subcategory are not dependent on local air toxics programs.

Therefore, concerns regarding facilities moving to areas of the country with less-stringent air toxics programs should be alleviated.

Although NATA may show measurable concentrations of toxic air pollution across the country, these data do not suggest that PCWP facilities that do not contribute to the high exposures and risk should be included in MACT regulations, notwithstanding our authority under CAA section 112(c)(9).

Comment: One commenter stated that the dockets for the MACT proposals that contain the risk approaches make it clear that the White House Office of Management and Budget (OMB) and industry were the driving forces behind the appearance of these unlawful approaches in EPA's proposals. The commenter condemned the industry-driven agenda that it claimed is being promoted by the White House OMB.

A second commenter stated that the accusations that EPA succumbed to industry lobbying and internal pressures are entirely unfounded.

Response: We are required by Executive Order 12866 to submit to OMB for review all proposed and final rulemaking packages that would have an annual effect on

the economy of $100 million or more. The comments we received from OMB reflect their position that low-risk facilities do not warrant regulation. However, the commenter is incorrect in implying that we have not exercised our independent judgment in addressing these issues. Our rationale for adopting the risk-based approach in this PCWP rulemaking is that such an approach is fully authorized under the CAA. This rule reflects the EPA Administrator's appropriate use of discretion to use CAA section 112(c)(9) to delist a low-risk subcategory.

Effects on MACT program

Comment: Several commenters expressed concern about the impact of a risk-based approach on the MACT program. Some commenters stated that the proposal to include risk-based exemptions is contrary to the 1990 CAA Amendments, which calls for MACT standards based on technology rather than risk as a first step. The commenters pointed out that Congress incorporated the residual risk program under CAA section 112(f) to follow the MACT standards, not to replace them. One commenter added that risk-based approaches would be used separately to augment and improve technology-based standards that do not adequately

provide protection to the public.

Another commenter believed that CAA section 112(d)(4) and the regulatory precedent established in over 80 MACT standards reject the inclusion of risk in the first phase of the MACT standards process. The commenter argued that the use of risk assessment at this stage of the MACT program is, in fact, directly opposed to title III of the CAA.

Response: We disagree that inclusion of a low-risk subcategory in today's final PCWP rule is contrary to the 1990 CAA Amendments. The PCWP MACT rule is a technology-based standard developed using the procedures dictated by section 112 of the CAA. The only difference between today's final PCWP rule and other MACT rules is that we used our discretion under CAA sections 112(c)(1) and (9) to subcategorize and delist low-risk affected sources, in addition to fulfilling our duties under CAA section 112(d) to set MACT. The CAA requires that categories or subcategories meet specific risk criteria, and to determine this, risk analyses may be used. We disagree with the commenter that we must wait for implementation of CAA section 112(f) before utilizing risk analysis in this manner. We feel that today's final PCWP rule is

particularly well-suited for a risk-based option because of the specific pollutants that are emitted by PCWP sources. For many affected sources, the pollutants are emitted in amounts that pose little risk to the surrounding population. However, the cost of controlling these pollutants is high, and may not be justified by environmental benefits for these low-risk affected sources. Only those PCWP affected sources that demonstrate that they are low risk are eligible for inclusion in the delisted low-risk subcategory. The criteria included in today's final PCWP rule defining the delisted low-risk subcategory are based on sufficient information to develop health-protective estimates of risk and will provide ample protection of human health and the environment.

Inclusion of a low-risk subcategory in today's final PCWP rule does not alter the MACT program or affect the schedule for promulgation of the remaining MACT standards. We recognize that such provisions are only appropriate for certain source categories, and our decision-making process required source category-specific input from stakeholders. The 10-year MACT standards, which are now being completed, are the last group of MACT

standards currently planned for development, and for any risk provisions to be useful, the provisions must be finalized in a timely manner.

Comment: Several commenters stated that the inclusion of a risk-based approach would delay the MACT program and/or promulgation of the PCWP MACT standard. If the proposed approaches are inserted into upcoming standards, the commenters feared the MACT program (which is already far behind schedule) would be further delayed.

One commenter stated that they were strongly opposed to returning to the morass of risk-based analysis in an attempt to preempt the application of technology-based MACT standards and exempt facilities. The commenter stated that designing a risk-based analysis procedure would also take significant resources, as evidenced by the fact that it took five plus pages in the Federal Register to discuss just the basic issues to be considered in the analysis. The commenter indicated that the demand on government resources could cause a delay in the application of MACT nationwide. The commenter stated that EPA should also consider the issue of fairness since the rest of the industrial sector whose NESHAP have already been promulgated did not have a risk-based

option.

Another commenter stated that it is evident that the proposed risk-based exemptions would require extensive debate and review in order to launch, which would further delay promulgation of the remaining MACT standards. The commenter stated that delays could be exacerbated by litigation following legal challenges to the rules, and such delays would trigger the CAA section 112(j) MACT hammer provision, which would unnecessarily burden the State and local agencies and the industries. The commenter concluded that, obviously, further delay is unacceptable. Another commenter agreed, stating that it is imperative that EPA meet the new deadlines for promulgating the final MACT standards.

Two commenters stated that EPA's proposal to improperly incorporate risk assessment into the technology-based standard process would cripple a MACT program already in disarray. The commenters argued that the risk-based approach could exacerbate the delay in HAP emissions reductions required by CAA section 112. One commenter noted that EPA's Office of Inspector General recently found that EPA is nearly 2 years behind in fulfilling its statutory responsibilities for

implementing Phase 1 MACT standards. According to the commenter, this delay potentially harms the public and environment. The inclusion of risk-based exemptions in 10-year MACT standards would only further delay this process. The other commenter noted that EPA lacks adequate emissions and exposure data, source characterization data, and health and ecological effects information to conduct this process anyway. This commenter believed that the air toxics program is flawed and failing to protect public health and the environment and argued that it was irresponsible for EPA to pursue a deregulatory agenda that would further weaken the effectiveness of the air toxics program. The commenter noted that EPA acknowledged the complexity and delays associated with the proposed risk-based approaches in deciding not to adopt the approaches in the final BSCP rule.

Response: We disagree that identification and delisting of a low-risk subcategory in today's final PCWP rule will alter the MACT program or affect the schedule for promulgation of the remaining MACT standards, especially the PCWP MACT rule. In fact, it has not caused such a delay for the final rule. We do not

anticipate any further delays in completing the remaining MACT standards. The delisting of a low-risk subcategory in today's final PCWP rule affects only the PCWP rule, and not any other MACT standards.

We feel that the final PCWP rule is particularly well-suited for a risk-based option because of the specific pollutants that are emitted. For many affected sources, the pollutants are emitted in amounts that pose little risk to the surrounding population. However, the cost of controlling these pollutants is high and may not be justified by environmental benefits for these low-risk facilities. Only those PCWP affected sources that demonstrate that they are low risk are eligible for inclusion in the delisted low-risk subcategory. The criteria defining the delisted low-risk subcategory are based on sufficient information to develop health-protective estimates of risk and will provide ample protection of human health and the environment.

The final PCWP NESHAP is being promulgated by the February 2004 court-ordered deadline. Any delays in implementation of the final PCWP NESHAP caused by legal challenges, which could and often do occur for any MACT standard we promulgate without a risk-based approach, are

beyond our control.

2. Legal authority

Section 112(d)(4) of the CAA

Comment: We received multiple comments stating that CAA section 112(d)(4) provides EPA with authority to exclude sources that emit threshold pollutants from regulation. We also received multiple comments disagreeing that CAA section 112(d)(4) can be interpreted to allow exemptions for individual sources. Several commenters supported the use of a CAA section 112(d)(4) applicability cutoffs for both threshold and non-threshold pollutants.

Response: We feel that section 112(d)(4) does not give us the authority to exempt affected sources or emission points from MACT limitations on non-threshold pollutant emissions. All PCWP facilities emit carcinogens (e.g., formaldehyde), that are currently considered non-threshold pollutants. Therefore, we are not using section 112(d)(4) authority to create risk-based options for PCWP.

We are not setting a risk-based emission limit, but, rather, we are using our CAA section 112(c)(9) authority to delist affected sources that demonstrate they meet the

risk and hazard criteria for being included in this low-risk subcategory.

De minimis

Comment: Some commenters attempted to identify a source of authority for risk-based approaches under the de minimis doctrine articulated by appellate courts. The commenters cited case law which they believe holds EPA may exempt de minimis sources of risk from MACT-level controls because the mandate of CAA section 112 is not extraordinarily rigid and the exemption is consistent with the CAA's health-protective purpose. The commenters argued that CAA sections 112(c)(9) and 112(f)(2) indicate that Congress considered a cancer risk below one in a million to be de minimis and, therefore, insufficient to justify regulation under section 112. The commenters stated that EPA's exercise of de minimis authority has withstood judicial challenge, and that application of de minimis authority is based on the degree of risk at issue, not on the mass of emissions to be regulated.

Other commenters argued that de minimis authority does not exist to create MACT exemptions on a facility-by-facility or category-wide basis. The commenters stated that EPA lacks de minimis authority to

delist subcategories based on risk. The commenters further noted that EPA has not revealed any administrative record justifying a de minimis exemption, to demonstrate that compliance with MACT would yield a gain of trivial or no value.

Response: We are not relying on de minimis principles for today's action, and therefore, do not need to respond to these comments.

Section 112(c)(9) of the CAA

Comment: Two commenters opposed using subcategorization as a mechanism to exempt facilities. One of the commenters stated that subcategorization is a tool that should be used in the standard setting process, and using it to exempt facilities would have a detrimental effect on the stringency of the MACT floor and would generally degrade the standard. According to the commenter, the two-step subcategorization proposal is inconsistent with how subcategorization has been done in numerous previous NESHAP.

The other commenter argued that EPA's subcategorization theories are unlawful. According to the commenter, CAA section 112(c)(9) does not authorize EPA to separate identical pollution sources into

subcategories that are regulated differently to weed out low-risk facilities or reduce the scope/cost of the standard. The commenter stated that subcategories based solely on risk do not bear a reasonable relationship to Congress' technology-based approach or the statutory structure and purposes of CAA section 112, and are not authorized by the CAA. According to the commenter, categories and subcategories are required to be consistent with the categories of stationary sources in CAA section 111. The commenter was not aware of any instance in which EPA has established categories or subcategories based on risk. The commenter stated that EPA routinely defines subcategories based on equipment characteristics (e.g., technical differences in emissions characteristics, processes, control device applicability, or opportunities for P2). According to the commenter, EPA has not offered any explanation for why reinterpreting the statute to ignore nearly 12 years of settled practices and expectations under the MACT program is reasonable, nor why reducing the applicability of HAP emission standards serves Congress's goals in enacting the 1990 CAA Amendments.

The commenter noted that EPA's discussion of the

risk-based exemptions was contained in a preamble section entitled, “Can We Achieve the Goals of the Proposed Rule in a Less Costly Manner,” which strongly suggests that EPA’s motivation for considering these risk-based approaches is consideration of cost. The commenter cited prior EPA documentation and stated that EPA in the past has rejected the notion that cost should influence MACT determination, and this prior, consistently applied interpretation better serves the purposes of CAA section 112. The commenter argued that subcategorizing to set a no-control MACT floor is the same as refusing to set a MACT standard because the benefits would be negligible, which is unlawful.

The commenter also stated that CAA section 112(c)(9)(B)(i) does not authorize EPA to delist subcategories. According to the commenter, section 112(c)(9)(B) contains two subsections: subsection (i) refers only to categories, and subsection (ii) refers to both categories and subcategories. The commenter argued that the absence of the term “subcategories” in section 112(c)(9)(B)(i) indicates a Congressional choice not to permit the Administrator to delist subcategories of sources under section 112(c)(9)(B). The commenter stated

that this is consistent with Congress' decision to require a higher standard to delist categories that emit carcinogens. According to the commenter, the section 112(c)(9)(B)(ii) requirement of less than one in a million lifetime cancer risk for the most exposed individual is a higher and more specific standard than the standard for other HAP.

To the contrary, two commenters stated that EPA has ample authority under CAA sections 112(c)(1) and 112(c)(9) to create and delist low-risk categories or subcategories. According to the commenters, section 112(c)(1) provides the Administrator with significant flexibility to create categories and subcategories as needed to implement CAA section 112. One commenter stated that there is nothing in the statute that limits the criteria the Administrator can use in establishing categories and subcategories. The commenter added that there is also nothing in the history of EPA's interpretation of section 112(c) that precludes subcategorization based on risk. In addition, EPA has stated that emission characteristics are factors to be considered when defining categories.

The commenter stated that application of statutory

authority to exclude sources from regulation under section 112(d)(3) is also supported by relevant case law, e.g., in the Vinyl Chloride case. (NRDC v. EPA, 824 F.2D 1126 (D.C. Cir. 1987)) According to the commenter, the court in that case established a range of acceptable levels of risk in establishing limits under prior language in section 112, and the establishment of an acceptable level of risk could be used to create a low-risk subcategory that could be delisted. The commenter stated that technological or operational differences among sources may also help discriminate between low-risk and high-risk sources. The commenter stated that effective use of section 112(c)(1) authority to create risk-based subcategories would significantly improve the cost-effectiveness of the section 112 program without undermining its role in protecting public health and the environment.

Both commenters noted that CAA section 112(c)(9)(B) provides EPA with broad authority to remove from MACT applicability those categories and subcategories of facilities whose HAP emissions are sufficiently low as to demonstrate a cancer risk less than one in a million to the most exposed individual in the population (for non-

threshold carcinogens) and no adverse environmental or public health effect (for threshold HAP). (The commenter asserted that Congress used the terms category and subcategory interchangeably, indicating that either one can be delisted.) One commenter suggested that sources able to demonstrate a basis for inclusion in the delisted category on a case-by-case basis would then be exempted from the MACT, subject to possible federally-enforceable conditions designed by EPA. The commenter stated that the new category could include the following: all low-risk facilities, facilities producing wood products found to pose no expected risk to human health (i.e., fiberboard, medium density fiberboard and plywood), facilities with acrolein emissions below a certain threshold, or facilities selected on the basis of some other risk criterion. The commenter suggested that the low-risk category be included in the final rule and delisted within 6 months following publication of the final rule. The delisting notices would designate health benchmarks and facilities would be required to submit evidence (e.g., tiered dispersion modeling) demonstrating that their emissions result in exposures that fall below the benchmarks. Following delisting of the category, an

affected source could apply to EPA for a determination that it qualifies for inclusion in the low-risk category. After evaluating the source's petition, EPA would issue a written determination of applicability based on the petition that would be binding on the permitting authority (unless the petition was found to contain significant errors or omissions) and appealable by the affected source or interested parties. The EPA could require all facilities that qualify for inclusion in the delisted category to comply with federally-enforceable conditions, similar to the conditions established in permits for synthetic minor sources (e.g., limits on potential to emit, production limits).

The commenter also responded to objections regarding the subcategorization and delisting of low-risk facilities. The commenter stated that the contrasting of the terms category and subcategory offered a distinction that in no way limited EPA's authority to delist low-risk facilities. According to the commenter, the argument that EPA cannot create subcategories based on risk is contradicted by the statutory language, which expressly states that the categories and subcategories EPA creates under CAA section 112 need not match those created under

CAA section 111. Furthermore, prior EPA statements do nothing to detract from EPA's broad discretion to establish categories and subcategories. The subcategorization factors previously discussed by EPA justify subcategorization based on risk. The authority cited by one commenter does not establish that EPA's discretion to alter subcategorization is limited in any way, and even if it were, EPA is not bound by any prior position. The arguments that EPA may not delist subcategories for carcinogens (or sources emitting carcinogens) rest on a formalistic distinction that EPA previously has rejected as meaningless, and that, at any rate, can be remedied with a simple recasting of a subcategory as a category. The commenter stated that doing so is undisputedly within EPA's authority.

Three commenters addressed the issue of subcategorizing PCWP facilities based on characteristics other than risk. One commenter stated that the only option that appears consistent with the CAA, does not create excessive work for State and local agencies, and may be able to be based on science, is the subcategorization and delisting approach. However, the commenter added that the subcategories should be based on

equipment or fuel use, not risk. The commenter stated that a subcategory based on site-specific risk creates a circular definition and does not make sense. The commenter also stated that subcategory delisting should occur before the compliance date so that facilities do not put off compliance in the hope or anticipation of delisting.

The second commenter stated that EPA requested comment on the establishment of PCWP subcategories ostensibly based on physical and operational characteristics, but in reality based on risk. According to the commenter, this indirect approach is just a variation on the approach (direct reliance on risk) that it claims EPA itself notes would disrupt and weaken establishment of MACT floors, and is accordingly unlawful. The commenter stated that, even if these approaches were lawful, to the extent that EPA's proposal could be read to suggest that facilities could be allowed to become part of the allegedly low-risk subcategory in the future without additional EPA rulemaking, this too would be unlawful. According to the commenter, CAA section 112(c)(9) provides the EPA Administrator alone the authority to make delisting determinations, and such authority may not be delegated

to other government authorities or private parties. The commenter stated that EPA's proposal suggests an approach entirely backward from the statute–allowing sources to demonstrate after-the-fact that they belong in a subcategory that has been delisted under section 112(c)(9), when the statute requires that EPA determine that no source in the category emits cancer-causing HAP above specified levels, or that no source in the category or subcategory emit non-carcinogenic HAP above specified levels, by the time EPA establishes the standard. The commenter stated that EPA has provided no explanation of how the suggested approaches would be lawful or workable.

The third commenter indicated that low risk is an adequate and appropriate criterion for categorization. The commenter disagreed that EPA should create and delist categories on a technology basis when the intent is delisting of low-risk facilities. The commenter believed that seeking a technology-based surrogate for risk is unnecessary within the statutory framework. The commenter noted that the Congressional intent was "to avoid regulatory costs which would be without public health benefit." (S. Rep. No. 228, 101st Cong., 1st. Sess. 175-6 (1990)) Nevertheless, the commenter

described some technology-based criteria that they believed could be used to develop low-risk groups of PCWP facilities.

Four commenters addressed the impact that creation of a low-risk subcategory under CAA section 112(c)(9) could have on the establishment of MACT floors for the PCWP category. Two commenters argued that such subcategorization would have a negative effect. One commenter stated that this situation provided a valid reason for EPA not to mix risk-based and technology-based standards development. The commenter added that EPA also did not address how the “once in, always in” policy would apply in such a situation. The other commenter stated that this situation was another compelling reason why the suggested section 112(c)(9) subcategorization approach was unlawful and arbitrary. The commenter stated that the flaw was so obvious, inherent, and contrary to the MACT floor provisions of CAA section 112 and its legislative history, that it proves the undoing of the suggested section 112(c)(9) exemption. According to the commenter, EPA cannot simultaneously exercise its source category delisting authority consistent with section 112(c)(9), establish appropriate MACT floors under CAA

section 112(d), and establish subcategory exemptions in the manner suggested by EPA, because the latter approach contravenes both section 112(c)(9) and the section 112(d) floor-setting process. The commenter stated that CAA section 112's major source thresholds and statutory deadlines make clear that sources meeting MACT by the time EPA is required to issue MACT standards must install MACT controls and may not subsequently throw them off or be relieved from meeting the MACT-level standards. While the CAA section 112(f) residual risk process allows EPA to establish more stringent emissions standards, there is nothing in the CAA that suggests EPA possesses authority to relax promulgated MACT standards.

The third commenter indicated that dilution of the MACT floor would not occur if low-risk category delisting occurred as follows: (1) propose low-risk category with final PCWP rule, (2) promulgate low-risk category 6 months after proposal, and (3) delist facilities prior to MACT compliance deadline. If EPA issued the final PCWP rule–thereby setting the MACT floor–before it allowed affected sources to apply for inclusion in the low-risk category to be delisted, then every affected source would be considered in the establishment of the MACT floor.

Thus, as a result of this timing, the MACT floor could not be diluted because no sources would be exempted from MACT before the MACT floor is set.

The fourth commenter believed that a MACT floor reevaluation would be appropriate and would further ensure that only facilities posing significant risk are required to install expensive controls.

Response: We feel that establishing a low-risk PCWP subcategory under CAA section 112(c)(1) and deleting that subcategory under CAA section 112(c)(9) best balances Congress' dual concerns that categories and subcategories of major sources of HAP be subject to technology-based (and possible future risk-based) emission standards, but that undue burdens not be placed on groups of sources within the PCWP source category whose HAP emissions are demonstrated to present little risk to public health and the environment. We do not contend that the CAA specifically directs us to establish categories and subcategories of HAP sources based on risk, and we recognize that, at the time of the 1990 CAA Amendments, Congress may have assumed that we would generally base categories and subcategories on the traditional technological, process, output, and product factors that

had been considered under CAA section 111. However, when properly considered, it becomes apparent that Congress did not intend the unduly restrictive–and consequently over-regulatory–reading of the CAA that some commenters urge regarding low-risk PCWP facilities.

Numerous CAA section 112 provisions evidence Congress' intent that we be able to find that sources, such as those in the PCWP category whose HAP emissions are below identified risk levels, should not necessarily be subject to MACT. These provisions, together with other indications of Congressional intent regarding the goals of section 112, must all be considered in determining whether we may base a PCWP subcategory on risk and delist that group of sources, without requiring additional HAP regulation that would be redundant for purposes of meeting Congress' risk-based goals.

While it is true that CAA section 112(c)(1) provides that "[t]o the extent practicable, the categories and subcategories listed under this subsection shall be consistent with the list of source categories established pursuant to section 111 and part C[,]" the provision also states that "[n]othing in the preceding sentence limits the Administrator's authority to establish subcategories

under this section, as appropriate." Therefore, by its plain terms, section 112(c)(1) does not preclude basing subcategories on criteria other than those traditionally used under section 111 before 1990, or those used after 1990 for sections 111 and 112. Moreover, while after 1990 we have principally used the traditional criteria to define categories and subcategories, such use in general does not restrict how we may define a subcategory in a specific case, "as appropriate," since each HAP-emitting industry presents its own unique situation and factors to be considered. (See, e.g., Sierra Club v. EPA, D.C. Cir. No. 02-1253, 2004 U.S. App. LEXIS 348 (decided Jan. 13, 2004).)

Even assuming for argument that the language of section 112(c)(1) may initially appear to restrict our authority to define subcategories, section 112(c)(1) cannot be read in isolation. A broad review of the entire text, structure, and purpose of the statute, as well as Congressional intent shows that, applied within the context of CAA section 112(c)(9), our approach of defining a low-risk subcategory of PCWP affected sources is reasonable, at the very least as a way to reconcile the possible tension between the arguably restrictive

language of section 112(c)(1) and the Congressional intent behind section 112(c)(9). (See, e.g., Virginia v. Browner, 80 F.3d 869, 879 (4th Cir. 1996).) Alternatively, even if the language is clear on its face in restricting our ability to define subcategories, we feel that, as a matter of historical fact, Congress could not have meant what the commenter asserts it appears to have said, and that as a matter of logic and statutory structure, it almost surely could not have meant it. (See, e.g., Engine Mfrs. Ass'n v. EPA, 88 F.3d 1075, 1089 (D.C. Cir. 1996).)

Our interpretation of the CAA is a reasonable accommodation of the statutory language and Congressional intent regarding the relationship of the statutory categorization and subcategorization, delisting, MACT and residual risk provisions that apply to the PCWP category. This becomes clear in light of the issue addressed by commenters, which is whether we may delist a subcategory of low-risk PCWP affected sources only if such a group of sources is defined by criteria we have traditionally used to define categories and subcategories for regulatory, rather than delisting purposes. Our approach implements Congressional intent to avoid the over-regulatory result

that flows from an overly rigid reading of the CAA. When the CAA is read as a whole, it is apparent that Congress–which in 1990 likely did not fully anticipate the policy considerations that come into play in regulating HAP emissions from PCWP affected sources–has not spoken clearly on the precise issue. Our interpretation is necessary to fill this statutory gap and prevent the thwarting of Congressional intent not to unnecessarily burden low-risk PCWP facilities by forcing them to meet stringent MACT controls when they already meet the risk-based goals of section 112. Our interpretation thus lends symmetry and coherence to the statutory scheme.

While we do not feel that CAA section 112(c)(1) actually restricts our authority to establish a low-risk PCWP subcategory, even if the language is so restrictive, it must be read within the context of Congress' purpose in allowing us to delist categories and subcategories of low-risk sources that are defined according to the traditional criteria under CAA section 111. It is beyond dispute that Congress determined that certain identifiable groups or sets of sources may be delisted if, as a group and without a single constituent source's

exception, they are below the enumerated eligibility criteria of CAA section 112(c)(9). There is no apparent reason why such a group or set of sources must be limited to those defined by traditional categorization or subcategorization criteria. This is because, first, Congress in section 112(c)(1) clearly did not absolutely prohibit us from basing categories and subcategories on other criteria generally; and, second, the underlying characteristic of an eligible set or group of sources under section 112(c)(9)–that no source in the set or group presents risks above the enumerated levels–can be applied under several approaches to defining categories and subcategories and is not dependent upon such set or group being traditionally defined in order to implement the purpose of section 112(c)(9). Put another way, there is nothing apparent in the statute that precludes us from delisting a discernible set of low-risk PCWP affected sources just because that set cannot also be defined according to other traditional criteria that have nothing to do with the question of whether each of the constituent PCWP affected sources is low risk. As a matter of logic and statutory structure, Congress almost surely could not have meant to require that every

identifiable group of low-risk PCWP affected sources, no matter how large in number or in percentage with respect to higher-risk affected sources in the PCWP category, must remain subject to CAA section 112, simply because that group could not be subcategorized as separate from the higher risk PCWP affected sources by application of traditional subcategorization criteria.

Where Congress squarely confronted the issue, it explicitly provided relief for categories and subcategories, defined by traditional criteria, that also happen to present little risk. (See CAA sections 112(d)(4), 112(c)(9), and 112(f)(2).) These CAA provisions addressing risk-based relief from, or thresholds for, HAP emissions regulation evidence Congressional concern that the effects of such pollution be taken into account, where appropriate, in determining whether regulation under CAA section 112 is necessary. At the time of the 1990 Amendments, Congress did not consider it necessary to provide express relief for additional groups such as low-risk PCWP facilities, beyond those defined by traditional category and subcategory criteria, because it assumed we could implement a comprehensive regulatory scheme for air

toxics that would both address situations where technology-based standards were needed to reduce source HAP emissions to levels closer to the risk-based goals of section 112, and avoid unnecessary imposition of technology-based requirements on groups of sources that were already meeting those goals. Congress enacted or revised various CAA air toxics provisions – including sections 112(c), (d) and (f) – to that end. Had events unfolded in that anticipated fashion, in the case of each industrial category and subcategory, there would have been a perfect correlation between the traditional criteria for defining categories and subcategories and the facts showing whether those groups are either high- or low-risk HAP sources.

This context turned out to be more complex than Congress anticipated, and in the case of PCWP facilities there is no clear differentiation between high- versus low-risk sources that corresponds to our traditional approach for identifying source categories and subcategories. Nevertheless, as in the case of a low-risk source group defined by traditional category or subcategory criteria, for the PCWP industry, we are able to identify a significant group of sources whose HAP

emissions pose little risk to public health and the environment, applying the same section 112(c)(9) delisting criteria that would apply to any traditionally-defined source group. We feel it is reasonable to conclude that Congress would not have intended to over-regulate the low-risk PCWP affected sources due to the inability to define such a group by traditional criteria and thereby frustrate the coherent scheme Congress set forth of ensuring that HAP sources ultimately meet common risk-based goals under section 112.

The commenter’s assertion that we are inappropriately altering our interpretation of the applicable statutory provisions and departing from the traditional categorization and subcategorization criteria in addressing low-risk PCWP facilities is thus unfounded. As explained above, the complexity of the air toxics problem and the relationship between the traditional criteria and what might be groups of low-risk sources, a context not fully understood by either Congress or EPA at the time of the 1990 Amendments, provides adequate justification for any unique applications of the our approach for low-risk PCWP facilities.

Our approach does not equate to one that Congress

considered and rejected that would have allowed source-by-source exemptions from MACT based on individualized demonstrations that such sources are low risk. This is because, contrary to that approach, we rely upon the application of specific eligibility criteria that are defined in advance of any source's application to be included in the low-risk PCWP subcategory, in much the same way as any other applicability determination process works. Moreover, in response to the assertion that our approach nevertheless conflicts with legislative history rejecting a similar (but not identical) approach Congress considered under CAA section 112, this legislative history is not substantive legislative history demonstrating that Congress voted against relief from MACT in this situation–there is no such history. The commenters point to a provision in the House bill that was not enacted but that would have provided in certain situations for case-by-case exemptions for low-risk sources. There is no evidence that this provision was ever debated, considered, or voted upon, so its not being enacted is not probative of congressional intent concerning our ability to identify and delist a group of low-risk PCWP affected sources. Instead, it is

reasonable to assume that, had Congress been aware in 1990 of the possibility that an identifiable group of PCWP affected sources is low risk, while that group does not correspond to traditional criteria differentiating categories and subcategories, Congress would have expressly, rather than implicitly, authorized our action here.

Moreover, the commenters are unable to cite any provision in CAA section 112 that would prevent us from being able to add individual or additional groups of low-risk PCWP affected sources to the group we initially identify in our final delisting action, as those additional low-risk PCWP affected sources prove their eligibility for inclusion in the delisted group over time. In fact, the approach we are taking for identifying additional low-risk PCWP affected sources is fully consistent with the approach we have long taken in identifying, on a case-by-case basis and subject to appropriate review, whether individual sources are members of a category or subcategory subject to standards adopted under CAA sections 111 and 112.

Regarding the comment that Congress did not expressly provide relief for carcinogen-emitting low-risk groups of

sources within the PCWP category other than as an entire category, we construe the provisions of CAA section 112(c)(9) to apply to listed subcategories as well as to categories. This construction is logical in the context of the general regulatory scheme established by the statute, and it is the most reasonable one because section 112(c)(9)(B)(ii) expressly refers to subcategories. Under a literal reading of section 112(c)(9)(B), no subcategory could ever be delisted, notwithstanding the explicit reference to subcategories, since the introductory language of section 112(c)(9)(B) provides explicit authority to only delist categories. Such a reading makes no sense, at the very least because Congress plainly assumed we might also delist another collection of sources besides either categories or subcategories, even in the case of sources of carcinogens. Both sections 112(c)(9)(B)(i) and (ii) refer additionally to groups of sources in the case of area sources as being eligible for delisting, even though only a category of sources is specifically identified as eligible for delisting in the introductory language of section 112(c)(9)(B). In light of the broader congressional purpose behind the delisting authority, we

interpret the absence of explicit references to subcategories in this introductory language and in section 112(c)(9)(B)(i) as representing nothing more than a drafting error.

Regarding the comments about establishing PCWP subcategories based on characteristics other than risk, the criteria for the low-risk subcategory we are delisting are based solely on risk and not on technological differences in equipment or emissions. We performed an analysis to determine which major source PCWP affected sources may be low-risk affected sources. Whether affected sources are low risk or not depends on the affected source HAP emissions; and affected source HAP emissions are a function of the type and amount of product(s) produced, the type of process units (e.g., direct-fired versus indirect-fired dryers) used to produce the product, and the emission control systems in place. Our analysis indicates that the affected sources which show low risk could include affected sources producing various products such as particleboard, molded particleboard, medium density fiberboard, softwood plywood, softwood veneer, fiberboard, engineered wood products, hardboard, and oriented strandboard. However,

there are also major sources that produce these products that are not low risk, and, therefore, product type cannot be used to define the low-risk subcategory. There is no correlation between production rate and low-risk affected sources (e.g., when affected sources are sorted by production rate for their product, the low-risk affected sources are not always at the lower end of the production rate range), so production rate cannot be used as criteria for defining the low-risk subcategory. The low-risk affected sources use a variety of process equipment (e.g., veneer dryers at softwood plywood plants and tube dryer at MDF plants). This same equipment is used at PCWP plants that are not low risk, and, therefore, there is no process unit type distinction that can be used to define the low-risk subcategory. The pollutant that drives the risk estimate can vary from affected source to affected source because of the different types of process units at each affected source. There is no clear distinction among low-risk and non-low-risk affected sources when ranked by emissions of individual pollutants because of other factors that contribute to affected source risk such as presence of a co-located PCWP facility or variability in the pollutants

emitted. Thus, there is no emissions distinction that can be used to define the low-risk subcategory. There is no technological basis for creating a subcategory of PCWP affected sources that are low risk. The commonality between all of the low-risk PCWP affected sources is that they are low risk, and, therefore, we have established the low-risk subcategory based on risk.

We do not agree with the commenters' assertions that our approach for the low-risk PCWP subcategory undermines our ability to identify the MACT floor for the larger PCWP category, either in today's final PCWP rule or in any future consideration of technological development under CAA section 112(d)(6). This is because, while low-risk PCWP affected sources will literally be part of a separate subcategory, there is nothing in the CAA that prevents us from including them in any consideration of what represents the best controlled similar source in the new source MACT floor context, and because it is not unprecedented for us to look outside the relevant category or subcategory in identifying the average emission limitation achieved by the best controlled existing sources if doing so enables us to best estimate what the relevant existing sources have achieved. In

fact, EPA has taken this very approach in the Industrial Boilers MACT rulemaking, in order to identify the MACT floor for mercury emissions. Moreover, the unique issues presented by the low-risk PCWP subcategory show that it would be unreasonable to exclude any better-performing low-risk PCWP sources from the MACT floor pool for the larger PCWP category. Traditionally, EPA has based categories and subcategories partly on determinations of what pollution control measures can be applied to the relevant groups of sources in order to effectively and achievably reduce HAP. In other words, EPA has identified subcategories for purposes of identifying the MACT floor in a way that accounts for the differences of sources types in their abilities to control HAP emissions. But whether a PCWP source is a low-risk source does not necessarily turn on such a distinction – two sources might have identical abilities to control HAP emissions, but the unique circumstances of one source regarding the impacts of its HAP emissions will determine whether or not it is a low-risk PCWP source. (In fact, it is theoretically possible that between two sources the better performing source will be a high-risk source, and the worse-performing source will be a low-risk source,

based on circumstances that are unrelated to the question of what abilities the sources have to control HAP emissions through application of MACT, such as the sources' locations vis a vis exposed human populations.) Therefore, EPA feels that not only is it appropriate to include any better-performing low risk PCWP sources in the MACT floor determinations for the larger PCWP category, but that excluding such sources simply based on the unique facts of the impacts of their emissions, with there being no difference in the abilities of high-risk and low-risk sources to apply HAP emission control measures, could result in an undesirable weakening of the MACT floor for the larger PCWP category. To that end, the MACT floors established for PCWP process units today are in no way affected by our establishment of the low-risk PCWP subcategory.

Finally, we disagree with the argument by one commenter that the low-risk PCWP subcategory approach represents an impermissible cost-based exemption from MACT or factor in determining MACT. Certainly it is true that costs may not be considered in setting the MACT floor. However, there is nothing in the CAA that prevents us from noting the cost impacts, beneficial or

adverse, of our actions in setting MACT floors, assessing possible beyond-the-floor measures, or conducting risk-based actions under CAA section 112. In fact, we routinely evaluate the costs of our regulatory actions, even when cost factors may not be used to influence the regulatory decision itself, in order to comply with applicable Executive Order and statutory administrative review requirements. Simply because there is a cost benefit to some members of the PCWP category in our establishing a low-risk PCWP subcategory does not make that action impermissible, provided that our subcategorization and delisting are otherwise properly based on the appropriate risk-based criteria under CAA section 112(c)(9). Section 112 by its own terms does not forbid the goal of achieving environmental protection in a less costly manner. Similarly, it is appropriate for EPA to note the beneficial air pollution-related impacts of not requiring low-risk PCWP sources to, for example, install criteria pollutant emission-producing RTOs. While it is true that such air quality-related impacts could not constitute non-air quality health and environmental impacts that EPA must consider when setting MACT under CAA section 112(d)(2), nothing in the CAA

prevents EPA from taking account of such impacts in developing its policy regarding whether it is appropriate to delist a subcategory under section 112(c)(9) when that subcategory otherwise meets the statutory criteria for delisting. Therefore, EPA does not agree with commenters who claim that its approach to delisting the low risk PCWP subcategory conflicts with how it has argued issues regarding either de minimis authority, cost-based exemptions from MACT, or the treatment of non-air quality impacts and the consideration of risk in setting the actual MACT standard before the U.S. Court of Appeals for the D.C. Circuit. Nor does our approach contravene any of that Court's rulings on these issues.

3. Criteria for demonstrating low risk

Dose-response values

Comment: Two commenters suggested that EPA incorporate into the PCWP rule the findings of the nationwide wood products risk assessment, which they claim demonstrates that the vast majority of wood products sources cause no meaningful risk to human health or the environment at current emission levels. The commenters stated that the risk assessment used existing air dispersion modeling studies of 34 wood products

facilities throughout the U.S. to estimate the maximum annual off-site HAP concentrations at wood products facilities nationwide. According to the commenters, the risk assessment indicates that large subgroups of facilities that are affected sources under the PCWP rule as proposed (i.e., fiberboard, medium density fiberboard, and plywood facilities) generally are expected to pose insignificant risks to human health, based on a comparison of predicted off-site concentrations with applicable health benchmarks. One of the commenters stated that many of the facilities with low off-site concentrations will likely be smaller plants that would not be able to justify installation of (additional) emission controls and may face closure without a risk-based compliance option. The other commenter stated that a comparison of off-site concentrations of formaldehyde and acetaldehyde with benchmarks reflecting the latest toxicological evidence indicates that exposures to those HAP are well below levels of concern. Acrolein was the only HAP with potential exposures at some affected sources (i.e., subset of fiberboard, medium density fiberboard and plywood affected sources) that exceeded the health benchmark. However, the commenter stated that

the acrolein findings may not represent an actual risk to human health because exceedences of the benchmark may be attributable to EPA averaging a large number of non-detects at one-half the detection limit, thereby artificially increasing predicted acrolein emissions. Based on these overall findings, the commenter concluded that the wood products risk assessment indicates that incinerator control is not warranted on the basis of human health concerns for a large number of facilities.

Response: We acknowledge receipt of the industry-sponsored nationwide wood products MACT risk assessment submitted by the commenter. However, we conducted our own risk analysis to evaluate the merits of including and delisting a low-risk subcategory in today's final PCWP rule. The methodology used in our risk analysis differed widely from the methodology used in industry's risk assessment. For example, industry's risk assessment was based on previously conducted air dispersion modeling studies for 34 PCWP facilities, while our analysis used emission estimates developed for each PCWP affected source expected to be a major source of HAP. We used different (generally more protective) human health benchmarks in our risk assessment than were used in

industry's risk assessment. We also considered all HAP (including metal HAP) in our risk analysis, whereas industry's risk assessment considered only methanol, formaldehyde, acetaldehyde, acrolein, phenol, and propionaldehyde.

Based on our risk analysis, we conclude that HAP emissions from some PCWP affected sources pose little risk to human health and the environment. Therefore, we have included a subcategory of low-risk PCWP affected sources in today's final PCWP rule, and are delisting that subcategory. Appendix B to subpart DDDD of 40 CFR part 63 includes procedures that facilities may use to demonstrate that they are part of the delisted low-risk subcategory, and, therefore, are not subject to the compliance options included in today's final PCWP MACT rule. To demonstrate eligibility for the low-risk subcategory, facilities must first conduct emissions testing for up to 13 HAP (five organic HAP from all process units, seven metal HAP from direct-fired process units, and MDI from presses processing product containing MDI resin). The rationale for selection of these 13 HAP is described elsewhere in this section and in the supporting documentation for the final rule. Facilities

must use the results from emissions testing to preliminarily demonstrate, subject to EPA approval, that they are part of the low-risk subcategory using either a look-up table analysis (based on the look-up tables included in appendix B to subpart DDDD of 40 CFR part 63) or site-specific risk assessment methodology (described in appendix B to subpart DDDD of 40 CFR part 63 and other analytical tools, such as the “Air Toxics Risk Assessment Reference Library” if appropriate for the specific source) and risk benchmarks (described in appendix B to subpart DDDD of 40 CFR part 63).

Regarding acrolein, the commenter is correct in that, when developing AP-42 emission factors, we used a value of one-half the detection limit for all non-detect sample runs if acrolein was detected in any sample runs from the applicable source category. Acrolein has been detected in process unit emissions from all sectors of the PCWP industry, except for hardwood plywood manufacturing. When using emission factors to estimate emissions from PCWP facilities, we did not estimate emissions of a pollutant when all of the emissions test runs were non-detect. However, we did use emission factors that included a mixture of detectable values and values based

on one-half of the method detection limit (MDL) when acrolein was detected at least once for a particular type of process unit. We maintain that this approach to handling non-detects is appropriate for the purposes that we used the emissions data. Facilities will conduct emissions tests instead of using emission factors to demonstrate eligibility for the low-risk subcategory. To prevent facilities from including HAP that are not detected in their low-risk demonstrations, appendix B to subpart DDDD of 40 CFR part 63 states that facilities may use zero for non-detects when all of the emission test runs are below the MDL, provided that certain criteria are met to ensure that emissions testing and analysis procedures are adequate to detect low concentrations of HAP.

Comment: One commenter stated that CAA section 112(d)(4) is particularly ill-suited to the PCWP and industrial boiler source categories. The commenter stated that, even if EPA had authority to create individualized MACT exemptions based on health thresholds, it could not do so if there is insufficient evidence on the pollutants emitted to establish a NOEL. According to the commenter, section 112(d)(4) does not

apply for chemicals that do not have a well-defined threshold based on reliable science. The commenter stated that available evidence does not establish a no-effect threshold for acetaldehyde, acrolein, benzene, carbon tetrachloride, chloroform, formaldehyde, manganese, methylene chloride, and phenol. As rationale, the commenter presented a summary of the available health effects data for each of these pollutants.

Response: As stated elsewhere in this preamble, we are not pursuing establishment of a threshold emission rate for the PCWP source category under CAA section 112(d)(4) because PCWP affected sources emit non-threshold pollutants. Therefore, this comment is irrelevant in the context of the PCWP rule. Comments pertaining to the Industrial/Commercial/Institutional Boilers and Process Heaters NESHAP are addressed in the comment-response document for that rule. (See Docket ID No. OAR-2002-0058.)

Comment: Two commenters expressed concern about the health benchmark data sources that EPA used. The first commenter argued that the proposal inappropriately used draft guidelines and toxicity profiles that had not been subject to public review and/or were not publicly

available. The commenter was particularly concerned with the use of non-linear carcinogenic risk values and toxicity profiles (for HAP) that have not been finalized and are not available for review by the public.

The second commenter argued that EPA should not rely solely on the health benchmarks in its Integrated Risk Information System (IRIS) database. The commenter stated that IRIS, while useful for obtaining information about the health effects of chemicals, is far from definitive, as EPA resource constraints have resulted in many chemical summaries that are significantly outdated and do not reflect the most recent scientific developments. Moreover, the commenter stated that the IRIS database is a non-statutory, in-house EPA activity, and IRIS entries are not subject to formal notice and comment. The commenter noted that EPA management has repeatedly emphasized in directives that other information must be considered, in addition to the IRIS database, when evaluating the health effects of chemicals in a regulatory context. The commenter concluded that EPA must use a scientifically appropriate health benchmark based on a consideration of all relevant information to ensure that the health benchmark is up-to-date and

scientifically credible, even if that means departing from the value in IRIS.

A third commenter agreed with EPA's choice to derive their data from IRIS, California EPA (CalEPA), and Agency for Toxic Substances and Disease Registry (ATSDR) for its documentation for establishing risk based threshold and non-threshold values. The commenter added that almost all HAP are being reviewed and reevaluated on a regular basis, and it would be inappropriate to single out formaldehyde and acetaldehyde at this time. The commenter stated that EPA can only rely on what is currently published and has underdone either peer review or EPA review. According to the commenter, the issue of changing health-based guideline values will always be a concern once health-based regulations are promulgated.

Response: We agree with the first two commenters that we should use the best available sources of health effects information for risk or hazard determinations. As we have stated previously, we will not be relying exclusively on IRIS values, but will be considering all credible and readily available assessments.[1] For air

[1]U.S. Environmental Protection Agency. 1999. *Residual Risk Report to Congress*. Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711, March

toxics risk assessments, we identify pertinent toxicity or dose-response values using a default hierarchy of sources, with IRIS being the preferred source, to assist us in identifying the most scientifically appropriate benchmarks for our analyses and decisions. The IRIS process contains internal and external peer review steps and represent EPA consensus values. When adequate toxicity information is not available in IRIS, we consult other sources in a default hierarchy that recognizes the desirability of these qualities in ensuring that we have consistent and scientifically sound assessments. Furthermore, where the IRIS assessment substantially lags the current scientific knowledge, we have committed to consider alternative credible and readily available assessments. For our use, these alternatives need to be grounded in publicly available, peer-reviewed information. Formaldehyde is an example of this situation. We are not using information that does not meet these requirements. We also agree with the third commenter that the issue of changing health-based guideline values is a general challenge in setting

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1999, EPA-453/R-99-001; available at http://www.epa.gov/ttn/oarpg/t3/meta/m8690.html. (EPA 1999)

health-based regulations. However, we are committed to setting such regulations that reflect current scientific understanding, to the extent feasible. Facilities conducting low-risk demonstrations should refer to appendix B to subpart DDDD of 40 CFR part 63 and other analytical tools, such as the "Air Toxics Risk Assessment Guidance Reference Library" (if appropriate for the specific source) for guidance on choosing appropriate dose-response values.

Comment: With the support of several others, one commenter pointed out that the science with respect to formaldehyde and acetaldehyde has changed since EPA's initial IRIS entries for those pollutants were completed. Consequently, the commenter believed it would be inappropriate for EPA to rely on the unit risk factors for those pollutants in the IRIS database in establishing a property line concentration threshold in the PCWP rule as proposed. The commenter supported EPA's efforts in revising its formaldehyde and acetaldehyde IRIS assessment and noted that both revisions are expected to be finalized before the final PCWP rule is published in 2004. Regarding formaldehyde, the commenter noted that EPA plans on using the model from the Chemical Industry

Institute of Technology (CIIT) to revise its formaldehyde IRIS assessment and encouraged this action. The commenter pointed out that the CIIT model has been recognized by several authoritative bodies (e.g., Health Canada/Environment Canada, Organization for Economic Coordination and Development, and World Health Organization) as providing the most scientifically defensible analysis of formaldehyde. (Another commenter added that the IRIS risk criteria for formaldehyde clearly cause formaldehyde risk estimates to be overstated but argued that, even using the very conservative IRIS numbers, risks are still low. A third commenter urged EPA not to use the formaldehyde values in ATSDR, stating that they are fundamentally flawed, as detailed in their comment.) Regarding acetaldehyde, the commenter recommended that EPA use a health benchmark between 27 and 390 micrograms per cubic meter (:g/m^3) and included their rationale in an attachment to their comment. If EPA is unable to complete its reassessments before the PCWP rule is finalized, the commenter encouraged EPA not to revert to the original IRIS unit risk factors for formaldehyde and acetaldehyde. Instead, the commenter recommended that EPA use the CIIT model (or

alternatively defer to Health Canada/Environment Canada) for formaldehyde and, at a minimum, use the IRIS reference concentration (RfC) of 9 :g/m^3 for acetaldehyde.

Response: With the exception of formaldehyde, we are using the human health values currently used by EPA's air toxics program and available at: http://www.epa.gov/ttn/atw/toxsource/summary.html. These dose response values come from several sources including EPA's IRIS, the Centers for Disease Control's ATSDR, and California EPA. See the supporting information for this rulemaking for a summary of the human health values we used in our assessment.

For formaldehyde, we do not use the dose-response value reported in IRIS. The dose-response value in IRIS is based on a 1987 study, and no longer represents the best available science in the peer-reviewed literature. Since that time, significant new data and analysis have become available. We based the dose-response value we used for formaldehyde on work conducted by the CIIT Centers for Health Research (formerly, the Chemical Industry Institute of Toxicology). In 1999, the CIIT published a risk assessment which incorporated mechanistic and dosimetric information on formaldehyde

that had been accumulated over the past decade. The risk assessment analyzed carcinogenic risk from inhaled formaldehyde using approaches that are consistent with EPA's draft guidelines for carcinogenic risk assessment. The CIIT model is based on computational fluid dynamics (CFD) models of airflow and formaldehyde delivery to the relevant parts of the rat and human respiratory tract, which are then coupled to a biologically-motivated two-staged clonal growth model that allows for incorporation of different biological effects. These biological effects, such as interaction with DNA and cell proliferation, are processes by which formaldehyde may contribute to development of cancer at sites exposed at the portal of entry (e.g., respiratory tract). The two-staged model is a much more advanced approach for examining the relevance of tumors seen in animal models for human populations.

We believe that the CIIT modeling effort represents the best available application of the available mechanistic and dosimetric science on the dose-response for portal of entry cancers due to formaldehyde exposures. We note here that other organizations, including Health Canada, have adopted this approach.

Accordingly, we have used risk estimates based on the CIIT airflow model coupled to a two-staged clonal growth model as the basis for the dose-response values for this analysis. This model incorporates state-of-the-art analyses for species-specific dosimetry, and encompasses more of the available biological data than any other currently available model. As with any model, uncertainties exist, and this model is sensitive to the inputs, but we believe it represents the best available approach for assessing the risk of portal-of-entry cancers due to formaldehyde exposures.

Currently, the CIIT information and other recent information, including recently published epidemiological studies, are being reviewed and considered in the reassessment of our formaldehyde unit risk estimate (URE). We plan to bring this reassessment to the Science Advisory Board in the summer of 2004. The feasibility of delisting a subgroup of affected sources based on risk is not compromised by the existing formaldehyde dose-response value because some affected sources would qualify for delisting based on this current value. We are moving forward with the final PCWP rule at this time because there is a court-ordered deadline, and we are

including the low-risk PCWP subcategory delisting and basing our review of sources's eligibility on the CIIT model for formaldehyde. We disagree with the statement by one of the commenters that risks are still low using the current IRIS number for formaldehyde. Our analysis has demonstrated that not all PCWP affected sources can be considered low risk when either the current IRIS or CIIT URE for formaldehyde is employed.

While we recognize the similarities between acetaldehyde and formaldehyde with regard to suggested modes of action, the reassessment of acetaldehyde is lagging behind that of formaldehyde. The formaldehyde reassessment is further along because of the preponderance of data specific to formaldehyde and the potentially greater impact of a change in potency to our regulatory decisions. Unlike for formaldehyde, an alternative, peer-reviewed, publicly available assessment does not currently exist for acetaldehyde, leaving us with the current IRIS assessment. We do not feel it is necessary to wait for our acetaldehyde reassessment to be completed, due to the court-ordered deadline for the final PCWP MACT rule, and due to the fact that until otherwise concluded the IRIS values for acetaldehyde

reflect the best available source of health effects information. Therefore, we are relying on the IRIS values for acetaldehyde in both cancer and non-cancer risk assessments for the final rule.

Affected sources conducting low-risk demonstrations should refer to appendix B to subpart DDDD of 40 CFR part 63 and other analytical tools, such as the "Air Toxics Risk Assessment Reference Library" (if appropriate for the specific source) for guidance on choosing appropriate dose-response values.

Comment: One commenter stated that EPA should consider formaldehyde and acetaldehyde as carcinogens unless a reassessment classifies them as threshold pollutants. A second commenter argued that formaldehyde and acetaldehyde are properly treated as threshold pollutants. This commenter contended that the legislative history of the CAA makes clear that Congress considered "threshold pollutants" to be those for which a "no observed effect level" can be established. (See, e.g., S. Rep. No. 228, 101st Cong., 1st Sess. 175-176 (1990)). By contrast, a non-threshold pollutant is one for which a no observed effect level cannot be identified, i.e., a pollutant for which adverse effects

may be seen at any dose level above zero. The commenter noted that EPA has historically assumed that all carcinogens are non-threshold pollutants that may trigger a carcinogenic effect at any exposure level, no matter how small. However, as mechanistic data on the mode of action of carcinogenesis advances, that conservative assumption may prove not to be accurate for certain pollutants. The commenter stated that the available science strongly suggest that these pollutants act as threshold carcinogens. The commenter contended that there is a no observed effect level for formaldehyde below which the carcinogenic risk either does not exist or cannot be measured, as documented in an attachment to their comment. The commenter stated that acetaldehyde should be viewed similarly because acetaldehyde is similar to formaldehyde structurally and toxicologically, and is expected to behave similarly mechanistically. Because acetaldehyde is a less potent carcinogen than formaldehyde (by an order of magnitude), non-cancer health effects (which clearly are threshold health effects) are the likely risk driver for that pollutant. Finally, the commenter noted that EPA's recently issued Draft Final Guidelines for Carcinogenic Risk Assessment

provide that, for non-linear carcinogens, EPA will calculate a reference dose (RfD) or RfC, which are safe lifetime doses (i.e., doses below which adverse effects will not occur). The commenter stated that this is exactly what a threshold pollutant is. Thus, EPA's revised guidelines support the conclusion that formaldehyde and acetaldehyde should be treated as threshold pollutants.

Response: We agree that we should consider formaldehyde and acetaldehyde as carcinogens unless a reassessment classifies them as threshold pollutants. Currently, formaldehyde and acetaldehyde are considered probable human carcinogens. Both are under review, and their dose-response values for carcinogenicity are likely to change. For the final rule, we are using an alternative dose-response value for formaldehyde based on a peer-reviewed, publicly available assessment. However, we do not have comparable quantitative information for acetaldehyde. Therefore, we will use the current IRIS value. Affected sources conducting low-risk demonstrations should refer to appendix B to subpart DDDD of 40 CFR part 63 (and/or the "Air Toxics Risk Assessment Reference Library") for guidance on choosing appropriate

dose-response values.

Comment: One commenter expressed concern about some of the health benchmarks that EPA plans to publish. The commenter reviewed various health studies for each pollutant and recommended several RfC values. The commenter noted that, because IRIS does not have an RfC for methanol, EPA has indicated it plans to determine a de minimis threshold for methanol using a value of 4.0 milligrams per cubic meter (mg/m^3) as an RfC. The commenter noted that this value is the noncancer chronic reference exposure level (REL) derived by CalEPA. The commenter stated that CalEPA's derivation of that REL contains some errors and inaccurate assumptions. According to the commenter, a more accurate estimate of a human safe level for chronic exposure to methanol by inhalation, derived from the same mouse study data, is 171 mg/m^3, which is discussed further in their comments. The commenter stated that their discussion presents new analyses not previously reviewed by EPA and a ground-breaking new approach to a hazard assessment for methanol. The commenter noted that EPA is currently revising its assessment for acrolein and has provided for public information a draft toxicological review and draft

IRIS summary for acrolein. The draft IRIS document states that the proposed new RfC of 0.03 :g/m^3 replaces the previous RfC of 0.02 :g/m^3, and that this new RfC is based on a more recent interpretation of the database. The commenter noted the basis for the revised acrolein RfC (Feron et al, 1978) and argued that EPA's interpretation of this study is overly conservative. The commenter stated that EPA has used the maximum uncertainty factors that could reasonably be justifiable and thereby developed an RfC that almost certainly goes beyond what is needed to protect human health. The commenter suggested that EPA should instead use the more realistic reference exposure level developed by CalEPA, which is more conservative than the Health Canada Tolerable Concentration.

The commenter noted that EPA has not published a health benchmark for phenol. The commenter agreed with EPA's proposal to use the CalEPA REL of 200 :g/m^3 for phenol in implementing the risk-based approach for wood products facilities. According to the commenter, the REL is intended to serve the same goal as an RfC.

The commenter supported using a health benchmark of 110 :g/m^3 for propionaldehyde and believed that this value

would protect human health with an ample margin of safety. The commenter described how the 110 :g/m^3 value was derived based on the threshold limit value (TLV) for propionaldehyde identified by the American Conference of Governmental Industrial Hygienists (ACGIH). The commenter explained that this benchmark is consistent with values developed by other organizations.

Response: We are currently developing an IRIS assessment for methanol, and any new information that exists that has undergone peer review will be considered in this re-evaluation. We publish yearly in the Federal Register a list of all chemicals for which we are planning IRIS assessment activity. This action further requests submission of pertinent data for these chemicals. In lieu of the pending IRIS assessment, we will continue to draw on other sources identified by our established default hierarchy of data sources, which have as part of their development processes external or peer review, in addition to extensive internal reviews.

A reassessment of acrolein was completed in June of 2003. The RfC resulting from that reassessment (i.e., an RfC of 0.02 µg/m^3, with an uncertainty factor of 1,000) is what is currently on IRIS. As with all announced IRIS

reassessments, time was provided for new data or relevant information to be submitted. In addition, each assessment undergoes extensive internal review as well as external peer review to ensure that the data used are scientifically sound. We feel that we have developed the most scientifically sound RfC that will ensure that risk assessments using this number are health-protective. Facilities conducting low-risk demonstrations should refer to appendix B to subpart DDDD of 40 CFR part 63 (and/or the "Air Toxics Risk Assessment Reference Library") for guidance on choosing appropriate dose-response values.

We do not currently have plans to develop an IRIS assessment for phenol. We will continue to rely on our hierarchy of other sources when IRIS values are not available.

We do not have an IRIS file for propionaldehyde, and an assessment is not available from the alternative sources in our default hierarchy. The hierarchy sources do not include ACGIH, as that organization develops reference values for use in occupational exposure settings, as opposed to the ambient air exposures that are the focus of this action. Development of an IRIS

assessment for propionaldehyde is currently underway. Once available, it will be used in future risk analyses. In the meantime, this HAP was not included in the assessment conducted for PCWP affected sources.

Comment: One commenter stated that comparison of modeled exposures to the RfC or similarly-derived health benchmark is highly protective and meets the CAA's "ample margin of safety" requirement. Although the commenter claims the CAA does not explicitly define "ample margin of safety," in the Vinyl Chloride case, the D.C. Circuit Court of Appeals articulated the purpose of the ample margin of safety determination as obtaining a "reasonable degree of protection" in light of scientific uncertainties and information gaps. (Natural Res. Def. Council v. EPA, 824 F.2D 1146, 1152-53 (D.C. Cir. 1987)). The commenter stated that, in regulatory practice, the ample margin of safety analysis consists of a consideration of the NOEL for a pollutant and the subsequent application of factors to account for scientific uncertainty surrounding that safe level of exposure. According to the commenter, this is the approach called for by the Senate Report accompanying the 1990 CAA Amendments (S. Rep. No. 228, 101st Cong. Sess.

171 (1990)), and this is exactly what is done in deriving an RfC or similar inhalation health benchmark. The commenter stated that EPA's derivation of the RfC contains multiple layers of conservatism to account for scientific uncertainty. The commenter believed that RfC values and similar inhalation health benchmarks already incorporate sufficient uncertainty factors to fulfill or exceed the ample margin of safety mandate of CAA sections 112(d)(4) and 112(c)(9).

Response: Today's final PCWP rule will utilize CAA section 112(c)(9) rather than CAA section 112(d)(4). We agree that the CAA does not define "ample margin of safety" explicitly. The CAA does, however, in section 112(f) explicitly recognize our Federal Register notice of September 14, 1989, which described our interpretation of ample margin of safety in the case of linear carcinogens, and our approach to implementing that interpretation. While the first step identifies the presumptive limit on maximum individual risk, the second step of that 2-step approach describes the setting of the risk-based standard at a level that provides an ample margin of safety, in consideration of a number of factors. As we noted in the 1989 notice, the objective

in protecting public health with an ample margin of safety under CAA section 112 is to ensure an individual lifetime risk level no higher than one in a million to the greatest number of persons possible, and to limit to no higher than one in ten thousand the estimated risk for a person living near a plant if they were exposed for 70 years.

In assessing risk or hazard of nonlinear effects, we use the RfC or comparable value. This value represents an estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious non-cancer effects during a lifetime. The RfC values and comparable values are derived from assessments of pertinent toxicological information to identify the lowest point of departure (in human equivalent terms) from the experimental data that is also representative of the threshold region (the region where toxicity is apparent from the available data) for the array of toxicity data for that chemical. The objective is to select a prominent toxic effect that is pertinent to the chemical’s key mechanism or mode of action. This

approach is based, in part, on the assumption that if the critical toxic effect is prevented, then all toxic effects are prevented. The RfC is derived from the point of departure (POD) (in terms of human equivalent exposure) for the critical effect by consistent application of uncertainty factors, which are to account for recognized uncertainties in the extrapolations from the experimental data conditions to an estimate appropriate to the assumed human scenario.[2]

In considering the extrapolation of the ample margin of safety objective described for linear cancer risk to the management of risk for nonlinear effects under CAA section 112(c)(9) (i.e., in decisions to delist a subcategory from any further regulatory action), we consider exposures relative to the RfC or comparable values for all of the emitted HAP, with specific attention to those affecting a similar physiological target organ or system.

Comment: One commenter stated that the uncertainty factors used in deriving the wood products HAP health

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[2]U.S. Environmental Protection Agency. 1994. Methods for Derivation of Inhalation Reference Concentrations and Application of Inhalation Dosimetry. Office of Research and Development. EPA/600/8-90/066F. (EPA 1994)

benchmarks are particularly large. The unit risk factors for acetaldehyde and formaldehyde were calculated using the linear multi-stage model, which assumes a linear relationship between cancer incidence and exposure to the pollutant at low doses. According to the commenter, the available data on acetaldehyde and formaldehyde strongly suggest that this assumption is incorrect and overly conservative.

The commenter pointed out that EPA's health assessment of acrolein is two to three times more conservative than CalEPA's, even though both are intended to protect sensitive individuals from any adverse effects following a lifetime of exposure. The commenter stated that EPA has developed an extremely conservative RfC for acrolein. The commenter argued that adopting a HI of 0.2 would add another five-fold safety factor to this already extremely conservative RfC. The commenter noted that acrolein is the HAP of greatest importance in determining risk from PCWP facilities.

Response: The dose-response values used to determine the criteria for defining the low-risk subcategory are drawn from IRIS, as well as from certain alternative sources. The IRIS process contains internal and external

peer review steps and represents EPA consensus values. When adequate toxicity information is not available in IRIS, we consult other sources in a default hierarchy that recognizes the desirability of these qualities in ensuring that we have consistent and scientifically sound assessments. In the case of acrolein, specifically mentioned by the commenter, consultation of other sources was not necessary because the acrolein assessment was completed within the past 9 months and represents current scientific knowledge. In those cases (e.g., formaldehyde), where the IRIS assessment substantially lags the current scientific knowledge, we consider alternative credible and readily available assessments. As pointed out elsewhere in this section, the RfC values or comparable values have been derived with the incorporation of uncertainty factors. The uncertainty factors are to account for recognized uncertainties in the extrapolations from the experimental data conditions pertaining to the chemical's particular toxicological data set to an estimate appropriate to the assumed human scenario.[3] The size variation of the uncertainty factors across RfC values reflects the size variation of the

[3]Ibid.

uncertainties associated with that extrapolation.

Comment: One commenter stated that the combination of conservative air dispersion modeling techniques and a conservative human health benchmark ensure that, where a source meets the requirements for a risk-based compliance option, human health will be protected with an ample margin of safety. The commenter pointed out that, for most individuals in the general population, actual exposures likely are one or more orders of magnitude below the maximum exposures predicted by the tiered modeling approach. The commenter noted that EPA's tiered modeling methodology is designed to identify the highest annual property line or off-site concentrations that might occur around each facility (as opposed to actual population exposure). The tiered approach models exposures of a maximally exposed individual (MEI) and incorporates a number of conservative assumptions. According to the commenter, actual average concentrations are likely to be much lower. The commenter argued that, even if the modeled concentrations were reflective of continuous average concentrations, it is highly unlikely that any individual would actually be exposed to such concentrations for a lifetime. The commenter noted that

the Presidential/Congressional Commission on Risk Assessment and Risk Management concluded that the conservatism inherent in use of the MEI was often so unrealistic that its use impaired the scientific credibility of health risk assessment.

Response: We discussed a tiered analytical approach in the preamble to the proposed rule, beginning with relatively simple lookup tables and followed by increasingly more site-specific but more resource intensive tiers of analysis, with each tier being more refined. In today's final rule, we are setting forth two options, as specified in Appendix B to subpart DDDD. In the first option, affected sources can qualify for inclusion in the delisted subcategory by using site-specific emissions test data and look-up tables that were developed using health-protective input parameters. As a second option, affected sources may choose to use a more refined site-specific risk assessment. A more refined analysis requires more effort, but produces results that are less likely to overestimate risk.

Comment: One commenter noted that the regulatory requirements in the proposed rule focused on six HAP that are emitted from PCWP facilities: acrolein,

acetaldehyde, formaldehyde, methanol, phenol, and propionaldehyde. Those HAP represent 96 percent of the emissions from PCWP affected sources. The commenter believes that any risk-based compliance mechanisms may reasonably be limited to consideration of the risks from these six HAP. The commenter noted that EPA's preliminary risk analysis conducted prior to proposal narrowed the list of HAP emitted from PCWP affected sources to include the following: acrolein, acetaldehyde, formaldehyde, methanol, phenol, benzene, methylene chloride, and manganese. The commenter referred to the results of their sensitivity analysis, which was conducted based on the data used in EPA's pre-proposal risk analysis. The analysis evaluated the impact of increasing or decreasing facility emissions by 30 percent, using different health benchmarks than those identified in EPA's analysis, and conducting the risk assessment with the six HAP targeted in the proposed rule versus the additional HAP identified by EPA. The commenter's sensitivity analysis showed that formaldehyde and acetaldehyde made up the bulk of the cancer risk, while benzene and methylene chloride had little or no influence on cancer risk, depending on the scenario

considered. Under all scenarios, acrolein contributed the most non-cancer risk. The remainder of the non-cancer risk was divided between acetaldehyde, formaldehyde and manganese, with manganese contributing between 5.6 and 12.2 percent of the non-cancer risk, depending on the scenario. Under all scenarios, methanol, benzene, methylene chloride and phenol did not contribute at all to the non-cancer risk from wood products affected sources (with one exception, where the phenol risk contribution was 0.1 percent). Based on these results, the commenter stated that there appeared to be little reason to include evaluation of methylene chloride or benzene in the risk-based compliance option. However, the commenter stated that it may be reasonable to take an extremely conservative approach and include evaluation of manganese in the risk-based compliance mechanisms.

Response: We agree that it is appropriate to limit the number of HAP that must be included in PCWP affected source low-risk demonstrations to only those HAP that may possibly result in meaningful contributions to the affected source risk. However, we disagree that limiting the HAP included in the low-risk demonstration to the six

HAP defined as total HAP in subpart DDDD of 40 CFR part 63 (acrolein, acetaldehyde, formaldehyde, methanol, phenol, and propionaldehyde) is appropriate. We identified the most prevalent HAP based on mass emitted for purposes of developing MACT compliance options because MACT is technology-based (i.e., the same technology that reduces emissions of the six HAP also reduces emissions of other organic HAP). As discussed earlier in this preamble, the six HAP defined as total HAP in subpart DDDD of 40 CFR part 63 are the HAP that are most often emitted in detectable amounts from the most PCWP process units, and these HAP make up 96 percent of the mass of nationwide HAP emissions from the PCWP industry. However, the risk associated with emissions of HAP are dependent on the mass emitted and the relative toxicity of each HAP. Thus, the HAP emitted in the greatest mass may not result in the most risk because the HAP may not be as potent as other HAP emitted in lower mass. For example, methanol is the HAP emitted from the PCWP industry in the greatest mass, but because methanol is not as toxic as other HAP emitted (e.g, formaldehyde, certain HAP metals), it does not result in as much risk as do other HAP. To ensure protection of public health,

all HAP must be considered when determining which affected sources are low risk. Simply importing the surrogate pollutants that are reasonably used for MACT purposes into the risk assessment context is not appropriate, as surrogacy for MACT is based on factors and considerations relating to technological control capabilities and not on how surrogate pollutants might indicate how non-surrogates affect risks to human health and the environment. For example, just because in many cases particulate matter is a useful surrogate for measuring the control efficiency of devices used to capture non-mercury HAP metals, that fact is unrelated to what risks the HAP metals may present individually or collectively, as HAP metals apart from the risks they pose as being particulates.

The commenter is correct in that our preliminary risk analysis conducted prior to proposal narrowed the list of HAP emitted from PCWP affected sources. We acknowledge receipt of the commenter’s sensitivity analysis based on the data used in our pre-proposal risk analysis. Following proposal, we conducted a more detailed risk analysis to evaluate the merits of including a low-risk subcategory in the final PCWP rule. This post-proposal

analysis considered emissions of more than 30 HAP emitted from the PCWP source category. Many of these HAP are only emitted in minute amounts that have been detected from a small number of PCWP process units. Nevertheless, we included them in our risk analysis to determine their contribution to PCWP affected source risk. We reviewed the toxicity values for each HAP and the mass of each emitted from PCWP affected sources to determine if it would be appropriate to narrow the list of HAP that PCWP affected sources must consider in their low-risk demonstrations. Based on our review, we determined that 95 percent of the cancer risk at PCWP affected sources is accounted for by the following HAP: acetaldehyde, benzene, arsenic, beryllium, cadmium, hexavalent chromium, lead, nickel subsulfide, and formaldehyde. We also determined that 95 percent of the non-cancer risk at PCWP affected sources is accounted for by the following HAP: acetaldehyde, acrolein, formaldehyde, phenol, MDI, arsenic, cadmium, and manganese. We feel that inclusion of these HAP in a demonstration of eligibility of the low-risk PCWP subcategory is appropriate. Limiting the list of HAP that must be included in the low-risk demonstration to 13 HAP minimizes emissions testing

costs, while ensuring that the HAP that drive the risk at PCWP affected sources are accounted for on a site-specific basis.

Background, multipathway, and ecological exposures

Comment: Two commenters argued that multipathway exposures should not be considered for PCWP affected sources. One commenter stated that, because the HAP emitted from the PCWP source category are not bioaccumulative, it is unnecessary to consider multipathway exposures. The other commenter stated that there is no policy basis for considering multipathway exposures because U.S. Government surveys and regulatory actions demonstrate that non-inhalation exposure to the six HAP emitted by wood products affected sources is insignificant. The commenter provided rationale for the conclusion that dietary and drinking water exposures to the six HAP are not significant. Because the six HAP primarily emitted from the PCWP source category (acetaldehyde, acrolein, and formaldehyde, methanol, phenol, and propionaldehyde) do not exhibit bioaccumulative characteristics, the commenter considered it unnecessary to consider multipathway exposures.

Three commenters argued that multipathway exposures

should be considered for PCWP facilities. One commenter stated that, when persistent biological toxicant or metal emissions are significant, ingestion and other pathways should be considered in the risk screening. Another commenter stated that the concentration-based applicability threshold approach in the proposed PCWP rule does not address non-inhalation exposures or adverse effects on the environment. The third commenter stated that CAA section 112(d)(4) requires EPA to consider all possible ways that a pollutant could affect human health or the environment because it refers to pollutants "for which a health threshold has been established," i.e., pollutants that have no adverse health or environmental effects. (See 5 Legislative History at 8511.) According to the commenter, EPA has recognized repeatedly in the past that many of the pollutants emitted by the source category are re-deposited from the atmosphere and then contaminate soil and water for long periods of time. The commenter added that these pollutants bioaccumulate in wildlife and food sources, poisoning people and animals alike. The commenter concluded that, to evaluate whether a pollutant is a threshold pollutant and what its health threshold and ample margin of safety must be, EPA must

consider all the potential health and environmental effects of deposition, persistence and bioaccumulation of that pollutant. The commenter argued that EPA would contravene section 112(d)(4) by considering only health effects caused by inhalation.

Response: This rule is relying not on CAA section 112(d)(4), but on section 112(c)(9), which states that potential ecological effects and multimedia human exposures need to be considered. We have conducted an ecological assessment and a multipathway exposure assessment on those HAP emitted from PCWP affected sources (including HAP not among the six mentioned by one commenter) that we have identified as having the potential for persisting and bioaccumulating in the environment. From this analysis we determined that adverse ecological effects and/or multimedia health effects are unlikely from PCWP affected sources. Therefore, PCWP affected sources attempting to demonstrate their low-risk status will not be required to include an ecological assessment or a multimedia assessment.

Comment: Several commenters stated that there is no legal or policy basis for EPA to consider background or

multipathway (non-inhalation) exposures. The commenters claimed that CAA section 112(d) requires that MACT standards be based only on emissions from the MACT-regulated portion of the facility; it does not give EPA the authority to consider existing background levels. One commenter asserted that CAA section 112 can be distinguished from other statutory provisions, both in the CAA and in other environmental legislation, where EPA has clearly been given authority to consider background sources.

Another commenter argued that the CAA's legislative history does not support a requirement to consider other exposures. The commenter also claimed that the statutory provisions on which EPA would rely to implement the risk-based mechanisms (i.e., CAA section 112(d)(4), CAA section 112(c)(9)(B), or EPA's de minimis authority) exclusively focus on the emissions from the source in making regulatory decisions. According to the commenter, EPA has existing regulatory programs (e.g., for mobile and area sources (Urban Air Toxics Strategy)) in place to address HAP emissions from other sources.

The commenter argued that over-control of PCWP affected sources is unjustified because PCWP affected

sources account for very small proportions of HAP emissions nationwide–less than 1.75 percent of acetaldehyde, 1.7 percent of acrolein, and 1 percent of formaldehyde emissions, according to their industry-sponsored risk assessment. Given these results, the commenter concluded that PCWP facilities cannot reasonably be considered to contribute meaningfully to background concentrations.

The commenter stated that delisting criteria and the so-called trigger component of the residual risk provision focus exclusively on emissions and whether the risk posed by any source in the category, by itself, exceeds one in a million cancer.

Two commenters opposed the use of available data on background concentrations and facility-specific measurement of background concentrations to determine the extent of exposures from other sources, arguing that the CAA and sound public policy warrant a focus exclusively on the emissions from the source category at hand when evaluating the applicability of a risk-based compliance option. Because a HI of 1.0 (or higher) is amply protective of public health and is warranted under EPA's statutory mandate, the commenters stated that

consideration of background concentration is not appropriate.

Response: For the purposes of this rulemaking, we are not considering background HAP emissions as part of the CAA section 112(c)(9) delisting of the low-risk PCWP subcategory. As we indicated in the Residual Risk Report to Congress, however, the Agency intends to consider facility-wide HAP emissions in future CAA section 112(f) residual risk actions.

Regarding multipathway exposures, the industry's wood products MACT risk assessment does not address HAP emitted from PCWP affected sources that have the potential to bioaccumulate and persist in the environment (e.g., lead, cadmium, and mercury). We conducted an exposure assessment for these HAP to determine exposure from ingestion as well as inhalation. The maximum multipathway risks were considerably lower than the predicted maximum inhalation risks from the PCWP source category. Therefore, PCWP affected sources are not required to conduct site-specific multipathway risk assessments as part of their low risk demonstrations. The look-up tables included in appendix B to subpart DDDD were developed using conservative input parameters to

ensure that affected sources qualifying for the low-risk subcategory based on the look-up tables would not pose a risk via multipathway exposures.

As discussed elsewhere in this preamble, for today's final PCWP rule, we consider that an HI limit of 1.0 provides an ample margin of safety for protecting public health under CAA section 112(c)(9) for this delisting of low-risk PCWP affected sources. The RfCs that are used to calculate the HI are developed to protect sensitive subgroups and to account for scientific uncertainties, ensuring that the use of an HI limit of 1.0 provides an ample margin of safety. We conclude that an HI limit of 1.0 is appropriate for the section 112(c)(9) demonstrations for the PCWP source category that are described in today's action. In future risk-based actions for this and other source categories (e.g., residual risk rulemakings under CAA section 112(f)) we may identify factors on a case-by-case basis that would lead us to conclude that HI limits other than 1.0 would be more appropriate for those other actions.

The look-up tables included in appendix B to subpart DDDD of 40 CFR part 63 were developed based on an HI of 1.0. For site-specific chronic inhalation risk

assessments, affected sources are required to ensure that their TOSHI (or, alternately, a site-specific set of hazard indices based on mechanistic data or dose-response data for their HAP mixture) are less than or equal to a value of 1.0. These assessments focus on respiratory effects and CNS effects, because based on our analysis noncancer impacts were dominated primarily by impacts on these systems. Other target organs or systems were found to be negligibly impacted.

Comment: One commenter stated that EPA had provided inadequate discussion of how environmental risks would be evaluated. The commenter added that the CAA requires EPA consider the environment as well as public health, and that, at a minimum, a facility would be required to conduct an assessment based on EPA's 1998 Guidelines for Ecosystem Assessment. The commenter referred EPA to appendix A of "Generic Assessment for Endpoints for Ecological Risk Assessment" for a detailed discussion on the legal basis from "such statutes as the CAA...that require EPA to consider and protect organism-level attributes or various taxa including fish, birds, and plants and more generally, animals, wildlife, aquatic life, and living things."

Another commenter cited an analysis they commissioned that showed it to be highly unlikely that emissions from PCWP facilities would pose a hazard to ecological receptors at levels that are protective of human health. Thus, concern over ecological receptors would not provide a valid basis for reducing the HI below 1.0.

Response: An ecological assessment is required under sections 112(d)(4), (c)(9), and (f)(2) of the CAA regarding the presence or absence of "adverse environmental effects" as that term is defined in CAA section 112(a)(7). Therefore, delisting under section 112(c)(9) requires consideration of ecological effects. The look-up tables developed for today's final PCWP rule are intended to accommodate enough conservatism that any affected source qualifying for inclusion in the delisted subcategory using them will qualify based on all endpoints, including ecological endpoints. Based on our analysis of ecological effects (in the supporting information for the final rule), we feel it is unlikely that PCWP affected sources would pose any significant ecological risks to any actual ecosystem or ecosystems nearby. We also conclude, given the low impacts from the hypothetical worst-case scenario investigated, that it is

unlikely that any potentially-exposed threatened or endangered species would be adversely affected by HAP emissions from these affected sources. Therefore, PCWP affected sources are not required to conduct site-specific ecological risk assessments as part of their low-risk demonstration.

Assuming the assessment referenced by the first commenter included only the six HAP listed in subpart DDDD of 40 CFR part 63, we disagree that these six HAP should be the sole focus of an ecological assessment. It is not clear from the comment whether the commenter is suggesting that we might consider lowering the human health HI values to below 1.0 in order to reflect ecological concerns or whether they are suggesting that an ecological HI value should not be reduced below 1.0. In the former case, that is not done. Human health and ecological assessments are independent assessments with their own risk management criteria.

Hazard index

Comment: Two commenters stated that hazard quotients (HQ) for chemical mixes should not be summed to determine the HI unless the primary effects are on the same organ by the same mechanism; otherwise the risk would be

overestimated. One commenter stated that CAA section 112(d)(4) refers to threshold pollutants, with each health threshold augmented by an ample margin of safety. These ample margin of safety values are already incorporated into RfC values. The risk criteria applied are confined to the effects upon which the RfC is based, which reflect the most sensitive target organ. According to the commenter, a decision to add risk posed by chemicals that affect the same target organ but have unknown mechanisms of action represents an unnecessarily conservative assumption that would tend to inflate the final risk estimate.

The commenters also noted that, according to the National Research Council and the Presidential/Congressional Commission on Risk Assessment and Risk Management, additivity at low doses is more likely to overestimate than to underestimate total risk. As stated in the Commission's 1997 Final Report: "When the individual components of a chemical mixture exhibit different kinds of toxicity or have different biological mechanisms of toxicity, they do not interact–they act independently at low doses. In that case, the dose-response relationships for each chemical should be

considered independently... [By contrast] studies in which similar chemicals with similar mechanisms and target were administered simultaneously indicate that antagonism is the usual outcome..."(Falk and Kotin 1964, Schmal *et al.* 1977)

Response: Our recommended approach for assessing risks from exposure to a mixture of pollutants is to utilize a dose-response assessment developed for that mixture.[4,5] There are few mixtures (e.g., coke oven emissions), however, for which such assessments are available. When mixture-specific dose-response assessments are not available, a component-by-component approach is recommended. The method for component data depends on a judgment of toxicologic similarity among components. The specific term toxicologic similarity represents a general knowledge about the action of a

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[4]U.S. Environmental Protection Agency. 1986. *Guidance for Conducting Health Risk Assessment of Chemical Mixtures*. Risk Assessment Forum, Washington, DC. EPA/630/R-98/002; available at http://cfpub.epa.gov/ncea/raf/recordisplay.cfm?deid=20533 . (EPA 1986)

[5]U.S. Environmental Protection Agency. 2000. Supplementary Guidance for Conducting Health Risk Assessment of Chemical Mixtures. Office of Research and Development. EPA/630/R-00/002 (EPA 2000)

chemical or a mixture and can be expressed in broad terms such as at the target organ level in the body. In our guidance, assumptions about toxicologic similarity are made in order to choose among risk assessment methods. In general, we assume a similar mode of action across mixtures or mixture components and, in some cases, this requirement may be relaxed to require that these chemicals act only on the same target organ.[6]

The primary method for component-based risk assessment of toxicologically similar chemicals is the HI, which is derived from dose addition. In our guidance, dose addition is interpreted as simple similar action, where the component chemicals act as if they are dilutions or concentrations of each other differing only in relative toxicity. Dose additivity may not hold for all toxic effects. Furthermore, the relative toxic potency between chemicals may differ from different types of toxicity or toxicity by different routes. To reflect these differences, the HI is then usually developed for each exposure route of interest, and for a single specific toxic effect of toxicity to a single target organ. A mixture may then be assessed by several HI, each

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[6]Ibid.

representing one route and one toxic effect or target organ.[7]

To assess the cumulative risk or hazard associated with nonlinear effects of HAP in our analysis of PCWP affected sources, HAP hazard quotients pertaining to the same target organs or systems are summed to generate TOSHI. While it may be preferable to focus on the addition of HAP HQ that involve similar or complementary mechanisms or mode of action, that level of information is not generally available for all of the HAP on which we are focusing. Pending the availability of such data for the HAP components of the mixture being assessed, the default method employed under CAA section 112(c)(9) is to aggregate HAP HQ by target organ to generate a TOSHI.

Comment: Two commenters supported a HI of 1.0 (or greater) as an appropriate benchmark for comparing exposures attributable to affected source emissions, which should fully provide for the statutory mandate of an ample margin of safety. The commenters referred to the 1997 Final Report of the Presidential/Congressional Commission on Risk Assessment and Risk Management in Regulatory Decision-Making as support for their position.

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[7]Ibid.

Specifically, the Commission supported a noncancer HI of 10.0, stating that there are few HAP with RfC values within a factor of 10 of their no observable adverse effects level (NOAEL). Because RfC values are typically one-thousandth of a NOAEL, a noncancer HI of 10.0 in those cases would still leave a margin of exposure of 100. The Commission recommended that EPA should, on the basis of screening assessments of source categories, do further risk assessment and analysis of categories where the noncancer HI exceeds 10.0. Where more detailed risk assessments yield noncancer hazard indices less than 1.0, the Commission recommended that no further action be required. The commenters agreed that sources should not be required to go below that level (e.g., to an arbitrary level such as 0.2), arguing that EPA has neither a legal mandate nor a rational basis for limiting the HI to less than 1.0.

One of the commenters stated that the comparison of RfC or similarly-derived health benchmarks to modeled maximum annual average concentrations is extremely health-protective and meets the ample margin of safety requirement of the statute. Given this high degree of conservatism, the commenter stated that neither the CAA

nor sound policy requires that background and multipathway exposures be incorporated into an evaluation of the degree of risk posed by affected sources. Under these circumstances, the commenter argued, the mere possibility of exposure from multiple sources, or multiple HAP from a single source, does not justify a uniform adjustment to all RfC values or similarly-derived health benchmarks for all affected sources. Similarly, the commenter believed that EPA should not mandate modeling risks from the entire facility, but rather only from the portions of the facility that are within the source category.

Two other commenters objected to a noncancer HI of 1.0 (or greater). The first commenter stated that, while the HI is useful in evaluating site-specific impacts, choosing a generic HI (some multiple of 1.0) for application to a wide range of sites is inappropriate. The commenter added that selection of an arbitrary multiple of 1.0 is not science, does not conform with CAA section 112(d)(4), and does not protect public health. The commenter stated that the selection of a HI of 0.2 as a rough screening tool seemed reasonable, although it was unsupported by any analysis. The commenter added that if

a default HI is used, then EPA should include a provision that would disallow its use to exclude a facility from MACT if better background information is available suggesting the default HI does not protect public health. However, the commenter believed that the CAA does not support an interpretation that includes the use of such a default to allow exemptions for individual sources. The commenter believed that the expansion of the interpretation to include non-threshold pollutants is in direct conflict with section 112(d)(4).

The second commenter evaluated the four potential options that EPA proposed to ensure that a risk analysis under CAA section 112(d)(4) considered the total ambient air concentrations of all the HAP to which the public is exposed. Option 1, which requires that the HI for all pollutants be no greater than 1.0, does not consider additional sources or background and is unacceptable, according to the commenter. Option 3, which uses existing data such as NATA to determine background and requires that the HI be no greater than 1.0, is also unacceptable, according to the commenter. The commenter pointed out that EPA has clearly stated at public meetings that the NATA is not to be used to make

regulatory decisions. (As the first commenter noted, NATA information includes warnings that the information is useful for large-scale planning purposes and not for local area assessment.) The commenter added that NATA relies on data submitted to EPA voluntarily and has been reported to consistently underestimate measured concentrations. Until EPA requires that HAP inventories be submitted as proposed in the Consolidated Emissions Reporting Rule (CERR), and the NATA conducts refined modeling around stationary sources, the commenter argued that NATA should not be considered for estimating background concentrations. Option 4, which allows individual affected sources to monitor the HAP backgrounds for use in their own analysis, requires oversight and evaluation by the States to ensure proper site selections and analytical methods and should not be considered, according to the commenter. The commenter believed Option 2, which requires that the HI be no greater than 0.2, would be the only viable option at this time using a conservative risk screening analysis. However, the commenter did not endorse using any of the proposed threshold limit applicability methods to exempt process sources from NESHAP requirements.

Two other commenters raised additional objections to EPA's proposed methodologies for determining the contribution of other sources to the overall hazard. The first commenter stated that EPA had not discussed the need to assess cumulative risks, aggregate exposures, and health impacts associated with exposure to chemical mixtures emitted from affected sources within the source categories. The commenter referred EPA to the extensive progress that has been made in more completely addressing risks from exposure to air pollution and integrated decisionmaking in such areas as children's risk issues, cumulative exposure, and chemical mixtures. The commenter requested that the recent advancements be incorporated into the risk assessment methods and overall cost estimates associated with risk-based exemptions in the proposed rules.

The second commenter stated that EPA's proposed alternative methodologies for determining the contribution of other sources to cumulative risk are untenable and deeply flawed. According to the commenter, the first and second approaches (HI of 1.0 and HI of 0.2) would allow exemptions based on blanket assumptions about exposure, but EPA provided no basis for making any

assumption. The commenter noted that the third option suggests relying on existing estimates of background levels of certain HAP, but argued that these information sources (e.g., NATA, ATSDR) are neither designed nor adequately precise to be used as the basis of regulatory applicability determinations. According to the commenter, EPA has cautioned that NATA emission estimates "cannot be used to identify exposures and risks for specific individuals, or even to identify exposures and risks in small geographic regions such as a specific census tract." (U.S. EPA, Limitations in the 1996 National-Scale Air Toxics Assessment) The commenter pointed out that NATA does not estimate exposure to a number of HAP, (e.g., hydrogen fluoride (HF), HCl), and the ATSDR profiles offer generalized assessments, but are not specific enough to establish as baseline for a given facility.

Response: For today's final PCWP rule, we are considering an HI limit of 1.0 to provide an ample margin of safety for protecting public health under CAA section 112(c)(9). However, we do not feel that increasing the HI limit above 1.0 is justified by currently available science. Safety factors are included in the dose-

response values used to calculate the HI to account for scientific uncertainties, and their inclusion helps ensure that using a HI limit of 1.0 provides an ample margin of safety. The TOSHI approach for site-specific risk assessment in today's final PCWP rule assumes additivity in mixtures of chemicals that target the same organ system. For their site-specific risk assessments, affected sources are encouraged to determine TOSHI for respiratory and CNS effects to simplify analysis. More detailed analysis of mixture additivity, incorporating mechanistic data and uncertainty and including dose-response data for specific mixtures, where available, may also be included in site-specific analyses using scientifically-accepted, peer-reviewed methodologies. Based on our analysis, noncancer impacts were dominated primarily by impacts on these systems and other target organ systems were found to be negligibly impacted. We are not using background concentrations from NATA in today's final PCWP rule. Several commenters presumed the use of CAA section 112(d)(4) for the PCWP rule as proposed. However, we are using CAA section 112(c)(9) and not section 112(d)(4). Discussion of our authority to consider background and multipathway exposures is

provided elsewhere in this section.

Tiered approach

Comment: Several commenters supported EPA's proposed tiered modeling approach, which begins with simple look-up tables and progresses to more refined facility-specific risk assessments. One commenter noted that the State of Wisconsin uses a tiered approach similar to the approach proposed by EPA, and in general, this approach has worked well. The approach first allows sources to demonstrate compliance if their potential emissions, stack height, and exhaust direction are within the ranges provided in conservative look-up tables. The second tier allows facilities to provide site-specific modeling to demonstrate compliance with ambient air standards at the property line. Another commenter added that EPA should be flexible in accepting evolving improvements in exposure assessment and risk modeling, and should take into account the inherent strengths and weaknesses of the types of modeling used. A third commenter noted that most sources would use the tiered modeling approach but believed that facilities should be allowed to use any EPA-approved modeling technique to demonstrate that their emissions are below the applicable health benchmark. The

commenter also recommended that, for the final PCWP rule, EPA adopt the model regulatory text that they provided for the risk-based framework.

One commenter opposed EPA's proposed tiered modeling approach, stating that if EPA decided to pursue a generic risk screening approach under section 112(d)(4), it would need to be conservative. According to the commenter, the use of a (non-tiered) conservative approach would represent the least cost to the regulated community and would be the least time-consuming for States reviewing the facility's application.

Response: We acknowledge the model regulatory text submitted by one of the commenters. However, as discussed elsewhere, we developed our own regulatory text to specify how affected sources must demonstrate that they are part of the low-risk subcategory through low-risk demonstrations. Also, we will be reviewing the low-risk demonstrations submitted by PCWP affected sources to remove the burden of reviewing risk assessments from States.

We will review all risk assessments performed in support of a demonstration of eligibility for the low-risk subcategory with regard to a variety of aspects,

including the consistency of the methodology and modeling techniques with those currently accepted by the scientific community and EPA. However, we will consider assessments that use risk methodology and modeling techniques in addition to or in lieu of those described in EPA's "Air Toxics Risk Assessment Reference Library," as appropriate, provided they have undergone scientific peer review pertinent to their use in the submitted assessment.

Comment: One commenter stated that, for EPA to conduct an up-front risk analysis, the procedure would need to be conducted using the most conservative stack parameters, with a hypothetical facility fence line to satisfy the many impact scenarios that could occur.

Response: We conducted a rough risk assessment to estimate the number of PCWP affected sources that might qualify for the delisted low-risk subcategory. The data used in our rough risk assessment were a combination of facility-specific data (e.g., process unit throughput) and industry average data (e.g., industry average stack parameters, average emission factors for estimating emissions). Facilities do not qualify for the low-risk subcategory based on our rough risk assessment, with the

exception of eight affected sources who were determined to pose very low risk based on our analysis (i.e., with TOSHI less than 0.1, and a cancer risk of less than 0.1 in 1 million). However, affected sources can qualify for inclusion in the delisted subcategory by using site-specific emissions test data and the look-up tables or by conducting a low-risk demonstration, as described in appendix B to subpart DDDD of 40 CFR part 63 and in other analytical tools such as the "Air Toxics Risk Assessment Reference Library," (which may be appropriate for specific sources). Look-up tables were developed using the health-protective air dispersion model SCREEN3. Stack height and fenceline distance vary in the tables, so affected sources will choose the most appropriate combination of these parameters. Invariant facility parameters built into the look-up tables are either average values or biased towards health-protective values, based on available data. Thus, we believe the look-up tables are appropriately health-protective to accommodate the many impact scenarios that could occur.

Risk assessment guidance

Comment: Several commenters stated that EPA neglected to follow its own guidelines and science policies in its

proposal for risk-based exemptions. One commenter argued that EPA had proposed a disorganized and cursory approach to implement risk-based exemptions that fell far below the quality of risk analysis typically required by EPA across its other programs. According to the commenter, the proposal did not adhere to EPA's established guidelines for characterizing human health and ecological risks, did not incorporate risk assessment guidelines for conducting multi-pathway risk assessments, and did not reference EPA guidelines for cumulative risk assessment that specifically require consideration of non-inhalation pathways. The commenter noted that EPA's March 1995 Risk Characterization Policy set goals of transparency, clarity, consistency, and reasonableness which apply to risk assessment practices across EPA. The commenter argued that the inconsistencies between EPA's proposal to provide risk-based exemptions in the MACT standard process and its risk assessment guidelines would undermine many regulatory programs throughout EPA.

The commenter stated that the risk-based scheme was based on a fundamental misunderstanding of the use of public health and ecological risk assessments in the regulatory process. The commenter added that the Federal

risk assessment guidelines require EPA to conduct risk assessments consistently across all Federal environmental programs. According to the commenter, the approaches outlined by industry's white papers neglected to include risk characterization, which provides needed and appropriate information to decision makers. The approaches also did not incorporate the critical recommendation of the Commission of Risk Assessment and Risk Management to establish a framework for stakeholder-based risk management decision making. The commenter stated that these omissions in the proposal would prevent regulatory agencies from demonstrating to the public that public health and the environment are adequately protected.

Several commenters stated that EPA also needed to be consistent with residual risk guidelines currently under development. One commenter stated that the tools needed to identify sources eligible for the risk-based exemption would be the same tools necessary for a CAA section 112(f) residual risk assessment, which the commenter understood were not yet ready for general use. Another commenter noted that the cancer risk guidelines are currently undergoing public review.

A third commenter stated they had serious reservations about EPA's apparent attempt to conduct an ad-hoc risk analysis for specific source categories by seeking comments on the specific elements to be included in the risk analysis. The commenter did not believe these rulemakings were an adequate forum to develop this risk analysis process. The commenter indicated that any risk analysis conducted by the EPA must adhere to the risk assessment principles outlined in the Residual Risk Report to Congress.

One commenter argued that the proposal is consistent with EPA risk assessment guidelines and policies and believed that others' technical objections were without merit. The commenter added that the contemplated risk-based applicability criteria were not in conflict with the classification of carcinogens and noncarcinogens.

Response: We discussed a tiered analytical approach in the preamble to the proposed rule, beginning with relatively simple lookup tables and followed by increasingly more site-specific but more resource intensive tiers of analysis, with each tier being more refined. In today's final rule, we are adopting a somewhat different approach for meeting the requirements

of CAA section 112(c)(9), as discussed elsewhere in this preamble. The basis for this approach stems from the general air toxics assessment approach presented in the Residual Risk Report to Congress, which was developed with full consideration of EPA risk assessment policy, guidance, and methodology.

Section 112(c)(9) of the CAA requires us to determine whether the public and the environment are protected. Any analyses we did to establish the feasibility of the risk-based approach or to develop health-protective look-up tables included consideration of human health as well as ecological criteria. The supporting information to the final rule details the assessment we conducted to determine the feasibility of delisting a low-risk subcategory and the look-up tables we developed to be used by affected sources in their demonstrations, thereby providing a public demonstration of the method employed to ensure protection of the public health and environment in decisions associated with this rule. Additionally, protection against the potential for exposures via non-inhalation pathways (e.g., ingestion) for persistent, bioaccumulative HAP is also inherent in the values in the look-up tables. As discussed previously, and in the

supporting information for the final rule, we conducted a screening assessment of multipathway and ecological effects for the PCWP source category. We concluded that multipathway risks are considerably lower than predicted maximum inhalation risks and that it is unlikely that PCWP affected sources would pose any significant risk to nearby ecosystems. Therefore, affected sources are not required to conduct site-specific multipathway and ecological risk assessments as part of their low-risk demonstrations.

We agree that the tools needed to identify sources eligible for the delisted low-risk subcategory of PCWP facilities are the same tools necessary for a CAA section 112(f) residual risk assessment. And, as stated in the Residual Risk Report to Congress, we intend to rely on the general methodology and process illustrated by the framework presented in that report in our risk assessment activities throughout the air toxics program. Affected sources must demonstrate eligibility for the delisted low-risk subcategory using either a look-up table analysis (based on the look-up tables included in appendix B to subpart DDDD of this part) or using the suggested site-specific methodology described together

with the criteria in appendix B to subpart DDDD of this part. The "Air Toxics Risk Assessment Library," developed specifically for EPA's Residual Risk program, is provided as an example of one document that could be used for these facility-specific risk assessments. This document has been peer-reviewed and was developed according to the principles, tools and methods outlined in the Residual Risk Report to Congress. However, it may not be appropriate for all sources, and for that reason sources and EPA may consider alternative analytical tools for these risk assessments.

The comment that the new cancer guidelines are still under review is correct but, as stated in the November 29, 2001 Federal Register notice (66 FR 59593), these 1999 draft guidelines are to be considered the interim guidance.[8]

4. Implementation

State and local resources

Comment: Several commenters contended that the proposal would place a very intensive resource demand on

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[8]U.S. EPA. 1999. Guidelines for Carcinogen Risk Assessment.
NCEA-F-0644. Risk Assessment Forum, Washington, DC

State and local agencies (e.g., permitting authorities) to review sources' risk assessments. State and local agencies may not have expertise in risk assessment methodology or the resources needed to verify information submitted with each risk assessment. The commenters argued that, if EPA intends to have the affected industries conduct the analysis, then EPA must consider the cost incurred by States, which may lack the necessary expertise to evaluate and review these analyses.

One commenter pointed out that the proposal only considered cost for the regulated source category, and not for regulatory agencies. According to the commenter, EPA did not consider the cost and resources associated with the following: (1) the public process required in reviewing and approving the proposed approaches and, if approved, making substantial changes to existing regulations; (2) the development of methods and guidance for human health and ecological risk assessments of affected sources; (3) the review by already budgetarily constrained State agencies of the assessments and assurance of adequate public participation in the process; and (4) the collection and verification of source-specific data needed for conducting risk

assessments (e.g., emissions data and stack parameters). The commenter added that the proposal did not address the critical need for qualified risk assessors to evaluate the scientific and technical basis for exempting affected sources from regulation on a case-by-case basis. The commenter estimated that if one additional full-time employee (FTE) were required per State to review risk-based exemptions, then the cost would be an additional $7.5 million annually.

Another commenter pointed out that the ongoing assurance that low-risk affected sources remain low risk would also increase the burden for the State and local agencies. The commenter also stated that diverting State and local resources to focus on presumably insignificant sources would detract from efforts associated with significant sources.

A third commenter stated that, since States generally do not have the right staff or resources to hire additional staff to review lengthy and complex risk analyses, they may refuse delegation of the PCWP rule, which would shift the burden to EPA in a time of tight budgets. According to the commenter, large expenditures are not justified when only a small number of facilities

may end up qualifying for an exemption.

By contrast, several commenters stated that a risk-based program approaches could be structured and implemented in a manner that would not impose a substantial cost or resource burden on States. One commenter stated that assuring compliance with risk-based applicability criteria would be straightforward and would not entail an added resource burden. Another commenter suggested that EPA work closely with States and industry to implement the risk-based approach in a non-burdensome manner. Two commenters stated that the risk-based approaches, like other MACT standards, would simply be incorporated into each State's existing title V program. Because the title V framework already exists, the addition of a risk-based MACT standard would not require States to overhaul existing permitting programs. One commenter stated that the risk-based approach would not increase the number of sources regulated by each State. The commenter believed that the final MACT rule itself should set forth the applicability criteria, including the threshold levels of exposure, that sources must meet to qualify for a risk-based determination. Each source would have the burden of demonstrating that its exposures

are below this limit, and, therefore, the States would not be required to develop their own risk assessment guidance or to conduct source-specific risk assessments. One commenter stated that the risk assessment guidance to be issued by EPA within the next several months would streamline the risk-based approach and further reduce any burden on the States. Three commenters supported having States charge reasonable increased fees (as a component of annual operating permit fees or other fees) to cover any significant additional workload demands associated with reviewing more-detailed tier 2/3 modeling.

Response: We acknowledge that review of the eligibility demonstrations for the delisted low-risk subcategory will require resources for verification of information and may require expertise in risk assessment methodology that is not yet available in some States. We also acknowledge that States may choose to reject delegation of the final PCWP rule. To alleviate these concerns and to ensure consistency in the applicability determinations for the delisted low-risk subcategory from State-to-State, we will review and approve/disapprove the low-risk subcategory eligibility demonstrations submitted by PCWP facilities. As mentioned previously in this

preamble, we encourage facilities to submit their assessments for review early to facilitate a timely review process.

We have considered the above comments in developing the criteria defining the delisted low-risk subcategory of PCWP affected sources, and we feel that the approach that is included in today's final PCWP rule provides clear, flexible requirements and enforceable compliance parameters. Today's final PCWP rule provides two ways that an affected source may demonstrate that it is part of the delisted low-risk subcategory of PCWP affected sources. First, look-up tables, which are included in appendix B to subpart DDDD of this part, allow affected sources to determine, using a limited number of site-specific input parameters, whether emissions from their sources might cause an HI limit to be exceeded. Finally, a site-specific modeling approach can be used by those affected sources that cannot demonstrate that they are part of the delisted low-risk subcategory using the look-up tables. With respect to guidance for performing low-risk demonstrations, one possible available set of procedures for performing risk assessments is discussed in EPA's "Air Toxics Risk Assessment Reference Library,"

and may be used, where appropriate.

Only a portion of the 223 PCWP major sources will submit eligibility demonstrations for low-risk subcategory. Of this portion of major sources, we feel that most will find themselves in the low-risk subcategory based on screening analyses (e.g., look-up table). However, it is likely that some facilities will submit more detailed risk modeling results. We are experienced in reviewing emission test results and site-specific risk assessments and will allocate resources for completion of these tasks. We will review and approve/disapprove low-risk subcategory eligibility demonstrations based on look-up table analyses and low-risk demonstrations. Following review of each low-risk subcategory eligibility demonstration for a facility, we will issue a letter of approval/disapproval to the facility and will send a carbon copy to the facility's title V permitting authority to be used to develop source-specific permit terms and conditions that will ensure that the source remains eligible for the low risk subcategory. The letter of notification regarding approval/disapproval of an affected source's low risk demonstration will also be sent to any other interested

stakeholders. The criteria for low-risk subcategory delisting are clearly spelled out in today's final PCWP rule, along with criteria needed to ensure that affected sources in the low-risk subcategory remain low risk. Because these requirements are clearly spelled out in today's final PCWP rule and because any standards or requirements created under CAA section 112 are considered applicable requirements under 40 CFR part 70, the terms and conditions demonstrating eligibility for membership in the delisted low-risk subcategory would be incorporated into title V permits, pursuant to State's existing permitting programs.

With respect to the burden associated with ongoing assurance that affected sources remain low risk, the burden to States of assuring that affected sources continue to be low risk will be no more than the burden associated with ongoing title V enforcement because the parameters that rendered an low risk will be reflected in terms and conditions to be incorporated into the title V permit. We have developed continuous compliance requirements for affected sources that initially qualify as low risk, and the affected sources will be responsible for demonstrating that they continue to be low risk if

changes are made to the affected sources' operations that would affect the risk that the affected sources pose to human health and the environment. We will review and approve/disapprove revised low-risk demonstrations.

With respect to our consideration of the public process required in reviewing/approving the proposed approaches and making substantial changes to existing regulations, our inclusion of a risk-based compliance option in today's final PCWP rule applies only to the PCWP rule and does not directly impact other regulations. Furthermore, the PCWP proposal provided the public with the opportunity to comment on the consideration of risk in the final PCWP rule.

Regarding the assurance of adequate public participation in the process of reviewing the risk analyses, the risk-based compliance options are part of a rule that was subject to public comment. The supporting information to the final rule details the assessment we conducted to determine the feasibility of delisting a low-risk subcategory and the look-up tables we developed to be used by affected sources in their demonstrations, thereby providing a public demonstration of the method employed to ensure protection of the public health and

environment in decisions associated with the final rule. We will be responsible for reviewing the low-risk demonstrations, but, similar to facilities requesting applicability determinations regarding promulgated standards, individual low-risk demonstrations will not be subject to public review and comment. We will, however, periodically publish updating notices in the Federal Register identifying any additional members of the low risk PCWP subcategory (or deletions therefrom), again, similarly to how we update notices regarding applicability determinations. These actions will represent final agency actions for purposes of judicial review under CAA section 307(b)(1). However, the parameters that rendered a facility of the low-risk subcategory will be incorporated into a title V permit and subject to the public review process through title V.

Comment: One commenter stated that if EPA intends to have the affected industries conduct the analysis, then EPA must consider the additional cost incurred by smaller sources to do the analysis.

Response: As mentioned previously, there are two ways that a PCWP facility may demonstrate eligibility for the delisted low-risk subcategory: (1) look-up tables, and

(2) a site-specific modeling approach that can be used by affected sources that cannot demonstrate eligibility for the delisted low-risk subcategory using the look-up tables. The look-up tables included in appendix B to subpart DDDD of this part allow affected sources to determine, using a limited number of site-specific input parameters, whether they are eligible for the low-risk subcategory. Attempting to demonstrate eligibility for the delisted low-risk subcategory is completely voluntary. Affected sources that are not eligible for the delisted low-risk subcategory based on look-up tables are not required to pursue a site-specific analysis (which can be increasingly complex and expensive as it becomes more refined). Each facility must weigh the costs of making a low-risk demonstration with the costs of MACT compliance. We feel that in general the costs associated with demonstrating eligibility for the low-risk subcategory will be lower than the costs associated with complying with MACT for many facilities, particularly smaller facilities and other facilities that have not already otherwise installed pollution controls. The majority of the cost associated with demonstrating eligibility for the delisted low-risk subcategory will be

emissions testing costs. Smaller facilities have fewer process units to be tested, and, because of their lower production rates relative to larger facilities, they will also likely have lower emissions. Thus, smaller PCWP affected sources may be more likely than their larger counterparts to fall into the delisted low-risk subcategory. Successfully demonstrating eligibility for the low-risk provisions will result in cost-savings for smaller facilities because these facilities will not have to expend the costs (e.g., the costs of installing operating, and maintaining emission controls) for MACT compliance.

The cost and economic analyses developed as part of the MACT rulemaking were based on the costs to install controls and comply with the MACT requirements. The costs associated with voluntarily conducting risk analyses were not estimated. Therefore, our estimate of costs associated with today's final PCWP rule are conservative, because the control costs are significantly higher than the costs of conducting emissions tests and risk analyses.

Title V

Comment: Two commenters opposed implementing the

risk-based approaches through the States' existing title V programs. One commenter stated that risk-based exemptions are such an implausible interpretation of the CAA that States do not even have the authority to grant them under their title V permit programs. The commenter was not aware of any approach to ensure that emissions remain below specified levels. According to the commenter, MACT standard applicability is the gate-keeper for being subject to a title V operating permit. Once a source is exempt from a MACT standard, it would be exempt from the monitoring, reporting and recordkeeping requirements needed to demonstrate compliance.

The other commenter stated that implementing the CAA section 112(d)(4) exemption interpretation through title V would be unlawful and unworkable. The commenter stated that Congress knew how to authorize States to establish case-by-case emission standards and implement them using post-rulemaking title V permits because it did so in CAA section 112(j). However, it did not do so in section 112(d)(4). The commenter argued that EPA lacks the authority to delegate section 112(d)(4) to the States and may not implement any section 112(d)(4) applicability cutoff through a post-rulemaking mechanism such as a

title V permit. With the exception of carefully delineated compliance monitoring, reporting, and certification provisions in the statute, title V permits may not create applicable requirements or exemptions from applicable requirements. The commenter added that, even if this approach is legal, it is still unworkable because of the resource challenges faced by States and the widespread delays in issuing title V permits. The commenter noted that State permit engineers and officials that prepare and issue title V permits generally are not experts in risk assessment or air dispersion modeling. According to the commenter, States and the public would be confronted with more self-serving facility arguments and data than could be adequately scrutinized, which could cause important health and risk determinations to be rubber stamped or cause the permit process to grind to a halt. The commenter added that most State title V permit programs are already behind the statute's permit issuance deadlines, and implementation of EPA's risk-based approach would exacerbate this unlawful situation further.

Several commenters supported implementing the risk-based approaches in the PCWP rule as proposed through the

States' existing title V programs. One commenter suggested that States which qualify and choose to do so should be delegated the authority to implement the risk-based alternatives. The commenter added that this would allow States to coordinate between the MACT alternatives and State air toxics requirements.

A second commenter stated that implementing the CAA section 112(d)(4) risk-based approach though title V would be lawful and workable. According to the commenter, no facility-specific post-rulemaking mechanisms nor expansion of the scope of title V permit process would be necessary, just the incorporation of the NESHAP's risk-based compliance option, which would contain the criteria for showing what the source would have to meet to qualify for the risk-based approach. The commenter stated that the objections from other commenters to the risk-based criteria were invalid, arguing that their objections were in tension with the conclusions of a CAAAC Workgroup on State/Local/Tribal air toxics issues and that their comments provided no basis for concluding that States lack the legal authority to implement the risk-based approach.

A third commenter noted that title V permits could

provide enforceable limitations, appropriate recordkeeping requirements, and periodic review upon renewal. The commenter added that, since the PCWP rule would apply only to major sources, title V permits already are required and would not be an added burden; title V could also be used to implement applicability cutoffs. However, the workload involved with the options requiring modeling, ambient monitoring, or other means to establish background concentrations would be a hindrance to any implementation mechanism. The commenter stated that, with respect to potential risk-based provisions, monitoring is more useful for demonstrating non-compliance than compliance because the regulation would apply to potential emissions under any weather conditions, whereas monitoring reflects current weather and emission conditions.

A fourth commenter suggested changes to the §63.2240 of the proposed rule that would incorporate permitting procedures similar to those under 40 CFR part 70, which would allow facilities that pose little risk in their respective airsheds to apply for a risk determination to be incorporated into their title V permits. Each source applying to be permitted as a subcategorized toxic

emitter with an acceptable risk determination would be required to perform detailed risk analyses for review by the public at large, local citizens, State agencies, and Federal authorities. This permitting exercise would allow managers of the airshed to develop custom-fit compliance plans that address source-specific risks and would allow the most flexibility for forest producers to reduce their identified risks.

Response: As discussed previously, we have determined that a CAA section 112(d)(4) risk-based exemption would not be appropriate for the PCWP source category. Instead, using our discretion in establishing subcategories of sources based on size, type, class, or other appropriate criteria under CAA sections 112(d)(1) and (c)(1), we have established a low-risk subcategory of PCWP facilities, and delisted that subcategory under CAA section 112(c)(9)(B). The requirements for qualifying for and remaining in the delisted low-risk subcategory are clearly spelled out in appendix B to subpart DDDD of this part, and any standards or requirements created under CAA section 112 are considered applicable requirements under 40 CFR part 70. Unless a PCWP source meets these conditions, it will remain subject to the

PCWP MACT rules. Therefore, the parameters used to demonstrate that facilities are part of the delisted low-risk subcategory would be incorporated into title V permits as federally enforceable permit terms, and States would not have to overhaul existing permitting programs. We note that our rules implementing title V of the CAA specifically provide for situations such as this. For example, in its provisions governing what types of permit revisions may proceed through the abbreviated "minor permit modification" process, our rules state that such procedures may not be used "to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject." 40 CFR 70.7(e)(2)(i)(A)(4); 40 CFR 71.7(e)(1)(i)(A)(4). We feel that permit terms reflecting a low risk PCWP source's eligibility clearly represent such terms, and are, therefore, allowed under title V. Also, such terms would be required to be added or revised through the more formal "significant modification" procedures of 40 CFR 70.7(e)(4) and 40 CFR 71.7(e)(3).

Facilities that qualify as part of the delisted low-

risk subcategory will initially demonstrate that they are low-risk using either the look-up tables or site-specific monitoring. They will demonstrate that risk does not increase by documenting that parameters that impact the risk analysis do not change in a way that increases risk. Facilities will not be required to perform detailed risk analyses for public review, although the public will have an opportunity to comment on draft permit terms and conditions that reflect low risk demonstrations, and to judicially challenge final EPA approvals of eligibility demonstrations under CAA section 307(b)(1).

We acknowledge the resource challenges faced by States, and, therefore, we will retain the authority to review and approve/disapprove the low-risk subcategory eligibility demonstrations submitted by PCWP facilities.

With regard to the title V permit programs being behind the statute’s permit issuance deadlines, the incorporation of the NESHAP requirements is a necessary step that will require some resources. Inclusion of the low-risk subcategory delisting should be a straightforward part of the process and should not cause significant delay.

V. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review

Under Executive Order 12866 (58 FR 51735 (October 4, 1993)), the Agency must determine whether the regulatory action is “significant” and, therefore, subject to OMB review and the requirements of the Executive Order. The Order defines “significant regulatory action” as one that is likely to result in a rule that may:

(1) have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;

(2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs, or the rights and obligation of recipients thereof; or

(4) raise novel legal or policy issues arising out of legal mandates, the President’s priorities, or the principles set forth in the Executive Order.

Pursuant to the terms of Executive Order 12866, it has been determined that the final rule is a "significant regulatory action" because the annual costs of complying with the final rule are expected to exceed $100 million. As such, this action was submitted to OMB for EO 12866 review. Changes made in response to OMB suggestions or recommendations are documented in the public record (see ADDRESSEES section of this preamble).

We did not estimate health and welfare benefits associated with changes in emissions of HAP, CO, VOC, PM, NO_X and SO_2 for the final rule.

B. Paperwork Reduction Act

The information collection requirements in the final rule have been submitted for approval to the OMB under the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. (ICR 1984.02) The information collection requirements are not enforceable until OMB approves them.

The information requirements are based on notification, recordkeeping, and reporting requirements in the NESHAP General Provisions (40 CFR part 63, subpart A), which are mandatory for all operators subject to national emission standards. These recordkeeping and reporting requirements are specifically authorized by

section 114 of the CAA (42 U.S.C. 7414). All information submitted to the EPA pursuant to the recordkeeping and reporting requirements for which a claim of confidentiality is made is safeguarded according to Agency policies set forth in 40 CFR part 2, subpart B.

Today's final rule will require maintenance inspections of the control devices but will not require any notifications or reports beyond those required by the NESHAP General Provisions. The recordkeeping requirements require only the specific information needed to assure compliance.

The annual monitoring, reporting, and recordkeeping burden for this collection (averaged over the first 3 years after the effective date of the rule) is estimated to be 4,692 labor hours per year, at a total annual cost of $250,528. This estimate includes notifications that facilities are subject to the rule; notifications of performance tests; notifications of compliance status, including the results of performance tests and other initial compliance demonstrations that do not include performance tests; SSM reports; semiannual compliance reports; and recordkeeping. In addition to the requirements of 40 CFR part 63, subpart A, facilities

that wish to implement emissions averaging provisions must submit an EAP. Facilities may also submit a request for a routine control device maintenance exemption to justify the need for routine maintenance on the control device and to show how the facilities plan to minimize emissions to the greatest extent possible during the maintenance. The average number of respondents during the 3-year period after the effective date of the rule is 220, and the average number of responses estimated to be submitted is 197. The resulting estimated burden per response is 24 hours. Total capital/startup costs associated with the testing, monitoring, reporting, and recordkeeping requirements over the 3-year period of the ICR are estimated to be $122,040, with operation and maintenance costs of $5,178.

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing

information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR part 9 and 48 CFR chapter 15. The OMB control numbers for the information collection requirements in the final rule will be listed in an amendment to 40 CFR part 9 in a subsequent Federal Register document after OMB approves the ICR.

C. Regulatory Flexibility Analysis

The EPA has determined that it is not necessary to prepare a regulatory flexibility analysis in connection with this final rule. The EPA has also determined that the final rule will not have a significant economic impact on a substantial number of small entities.

For purposes of assessing the impacts of today's final rule on small entities, small entity is defined as: (1)

a small business ranging from 500 to 750 employees depending on the businesses NAICS code; (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impact of today's final rule on small entities, EPA has concluded that this action will not have a significant economic impact on a substantial number of small entities. We have determined that, based on SBA size definitions for the affected industries and reported sales and employment data, 17 of the 52 companies, or 32 percent, owning affected facilities are small businesses. Although small businesses represent 32 percent of the companies within the source category, they are expected to incur 8 percent of the total industry compliance costs of $142 million. There are three small firms with compliance costs equal to or greater than 3 percent of their sales. In addition, there are seven small firms with cost-to-sales ratios between 1 and 3 percent.

We performed an economic impact analysis to estimate the changes in product price and production quantities for the firms affected by this rule. The analysis shows that of the 32 facilities owned by affected small firms, one small firm would be expected to shut down rather than incur the cost of compliance with the rule. Although any facility closure is cause for concern, it should be noted that the baseline economic condition of the facilities predicted to close affects the closure estimate provided by the economic model. Facilities which are already experiencing adverse economic conditions for reasons unconnected to this rule are more vulnerable to the impact of any new costs than those that are not.

The analysis indicates that the final rule should not generate a significant economic impact on a substantial number of small entities for the PCWP manufacturing source category for the following reasons. First, of the ten small firms that have compliance costs greater than 1 percent of sales, three small firms have compliance costs of greater than 3 percent of sales. Second, the results of the economic impact analysis show that one facility owned by a small firm out of the 32 facilities owned by affected small firms may close due to the implementation

of the final rule. The facility that may close rather than incur the cost of compliance appears to have low profitability levels currently. It also should be noted that the estimate of compliance costs for this facility is likely to be an overestimate due to the lack of facility-specific data available to assign a precise control cost in this case.

Although the final rule will not have a significant economic impact on a substantial number of small entities, EPA nonetheless has tried to reduce the impact of the rule on small entities. First, we considered subcategorization based on production and throughput level to determine whether smaller process units would have a different MACT floor than larger process units. Our data show that subcategorization based on size would not result in a less stringent level of control for the smaller process units. Second, we chose to set the control requirements at the MACT floor control level and not at a control level more stringent. Thus, the control level specified in the final PCWP rule is the least stringent allowed by the CAA. Third, the final rule contains multiple compliance options to provide facilities with the flexibility to comply in the least

costly manner while maintaining a workable and enforceable rule. The compliance options include emissions averaging and PBCO which allow inherently low-emitting process units to comply without installing add-on control devices and facilities to use innovative technology and P2 methods. Fourth, the final rule includes multiple test method options for measuring methanol, formaldehyde, and total HAP. Fifth, the final rule allows PCWP facilities to demonstrate eligibility for the delisted low-risk subcategory and thereby avoid MACT altogether. In addition, we worked with various trade associations during the development of the final rule.

As discussed in earlier sections of this preamble, we present the impacts of the rule associated with allowing PCWP facilities to demonstrate eligibility for the delisted low-risk subcategory and thereby avoid MACT altogether. The number of small businesses impacted is reduced to seven from the original 17, and the total number of businesses impacted is reduced to 42, down from the original 52. Small businesses represent 17 percent of the companies within the source category, which is down from the 32 percent estimate for the final rule.

These small businesses are expected to incur 4 percent of the total industry compliance costs of $75 million (the costs considering inclusion of the delisted low-risk subcategory). There are no small firms with compliance costs equal to or greater than 3 percent of their sales as compared to three for the final rule. In addition, there are four small firms with cost-to-sales ratios between 1 and 3 percent, which is down from seven for the final rule.

D. Unfunded Mandates Reform Act

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104-4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of the UMRA, EPA generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with “Federal mandates” that may result in expenditures by State, local, and Tribal governments, in aggregate, or by the private sector, of $100 million or more in any 1 year. Before promulgating an EPA rule for which a written statement is needed, section 205 of the UMRA generally requires EPA to identify and consider a

reasonable number of regulatory alternatives and adopt the least-costly, most cost-effective, or least-burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows EPA to adopt an alternative other than the least-costly, most cost-effective, or least-burdensome alternative if the Administrator publishes with the final rule an explanation why that alternative was not adopted. Before EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must have developed under section 203 of the UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

Since the final rule is estimated to impose costs to the private sector in excess of $100 million per year, it

is considered a significant regulatory action. Therefore, we have prepared the following statement with respect to sections 202 through 205 of the UMRA.

1. Statutory Authority

This final rule establishes control requirements for existing and new PCWP sources pursuant to section 112 of the CAA. The CAA requires NESHAP to reflect the maximum degree of reduction in emissions of HAP that is achievable. This is commonly referred to as MACT. Section 112(d)(3) of the CAA further defines a minimum level of control that can be considered for MACT standards, commonly referred to as the MACT floor, which for new sources is the level of control achieved by the best controlled similar source, and for existing sources is the level of control achieved by the average of the best performing 12 percent of sources in the category (or the best-performing five sources for categories with fewer than 30 sources).

Control technologies and their performance are discussed in the background information document for this proposal (Docket numbers A-98-44 and OAR-2003-0048). We considered emission reductions, costs, environmental impacts, and energy impacts in selecting the MACT

standards. The final standards achieve sizable reductions in HAP and other pollutant emissions.

2. Social Costs and Benefits

The regulatory analyses prepared for the final rule, including our assessment of costs and benefits, is detailed in the “Regulatory Impact Analysis for the Plywood and Composite Wood Products NESHAP” in Docket ID No. A-98-44. Based on estimated compliance costs associated with the final rule and the predicted change in prices and production in the affected industries, the estimated social costs of the final rule are $135.1 million (1999 dollars). The social costs of the final rule are the costs imposed upon society as a result of efforts toward compliance, and include the effects upon consumers of products made by the affected facilities.

It is estimated that 3 years after implementation of the final rule, HAP would be reduced by 9,700 Mg/yr (11,000 tons/yr) due to reductions in formaldehyde, acetaldehyde, acrolein, methanol and other HAP from PCWP sources. Formaldehyde and acetaldehyde have been classified as “probable human carcinogens.” Acrolein, methanol and the other HAP are not considered carcinogenic, but produce several other toxic effects.

The requirements of the final rule would also achieve reductions of 10,000 Mg/yr (11,000 tons/yr) of CO, approximately 11,000 Mg/yr (13,000 tons/yr) of PM_{10}, and approximately 25,000 Mg/yr (27,000 tons/yr) of VOC (approximated as THC). Exposure to CO can effect the cardiovascular system and the CNS. The PM emissions can result in fatalities and many respiratory problems (such as asthma or bronchitis). These estimates will be reduced to the extent facilities demonstrate eligibility to be included in the delisted low-risk subcategory. These estimated reductions occur from existing sources in operation 3 years after implementation of the requirements of the final rule and are expected to continue throughout the life of the sources. Human health effects associated with exposure to CO include cardiovascular system and CNS effects, which are directly related to reduced oxygen content of blood and which can result in modification of visual perception, hearing, motor and sensorimotor performance, vigilance, and cognitive ability. The VOC emissions reductions may lead to some reduction in ozone concentrations in areas in which the affected sources are located. There are both human health and welfare effects that result from

exposure to ozone, and these effects are listed in Table 3 of this preamble.

As mentioned earlier in this preamble, we are unable to provide a comprehensive quantification and monetization of the HAP-related benefits of the final rule. Nevertheless, it is possible to derive rough estimates for one of the more important benefit categories, i.e., the potential number of cancer cases avoided and cancer risk reduced as a result of the imposition of the MACT level of control on this source category. Our analysis suggests that imposition of the MACT level of control would reduce cancer cases by less than one case per year, on average, starting some years after implementation of the standards. We present these results in the RIA. This risk reduction estimate is uncertain and should be regarded as an extremely rough estimate and should be viewed in the context of the full spectrum of unquantified noncancer effects associated with the HAP reductions.

At the present time, we cannot provide a monetary estimate for the benefits associated with the reductions in CO. We also did not provide a monetary estimate for the benefits associated with the changes in ozone

concentrations that result from the VOC emissions reductions since we are unable to do the necessary air quality modeling to estimate the ozone concentration changes. For PM_{10}, we did not provide a monetary estimate for the benefits associated with the reduction of these emissions, although these reductions are likely to have significant health benefits to populations living in the vicinity of affected sources.

There may be increases in NO_X emissions associated with today's final rule as a result of increased use of incineration-based controls. These NO_X emission increases by themselves could cause some increase in ozone and PM concentrations, which could lead to impacts on human health and welfare as listed in Table 3 of this preamble. The potential impacts associated with increases in ambient PM and ozone due to these emission increases are discussed in the RIA. In addition to potential NO_X increases at affected sources, today's final rule may also result in additional electricity use at affected sources due to application of controls. These potential increases in electricity use may increase emissions of SO_2 and NO_X from electricity generating utilities. As such, the final rule may result in additional health impacts

from increased ambient PM and ozone from these increased utility emissions. We did not quantify or monetize these impacts.

Every benefit-cost analysis examining the potential effects of a change in environmental protection requirements is limited to some extent by data gaps, limitations in model capabilities (such as geographic coverage), and uncertainties in the underlying scientific and economic studies used to configure the benefit and cost models. Deficiencies in the scientific literature often result in the inability to estimate changes in health and environmental effects, such as potential increases in premature mortality associated with increased exposure to CO. Deficiencies in the economics literature often result in the inability to assign economic values even to those health and environmental outcomes which can be quantified. These general uncertainties in the underlying scientific and economics literatures are discussed in detail in the RIA and its supporting documents and references.

3. Regulatory Alternatives Considered

The final standards reflect the MACT floor, the least stringent regulatory alternative required under the CAA.

In addition, the final rule includes the least burdensome and most flexible monitoring, reporting, and recordkeeping requirements that we feel will assure compliance with the compliance options and rule requirements. Therefore, the standards reflect the least costly, most cost-effective, and least burdensome regulatory option that achieves the objectives of the final rule.

4. Effects on the National Economy

The economic impact analysis for the final rule estimates effects upon employment and foreign trade for the industries affected by the rule. The total reduction in employment for the affected industries is 0.3 percent of the current employment level (or 225 employees). This estimate includes the increase in employment among firms in these industries that do not incur any cost associated with the final rule. There is also minimal change in the foreign trade behavior for the firms in these industries since the level of imports of affected composite wood products only increases by less than 0.1 percent. There will be reductions in effects on the national economy associated with eligibility of sources for the delisted low-risk subcategory. The employment level will now be

reduced by 126 employees, which is 99 fewer than the reduction estimated for the final rule. The increase in the level of imports is half as large as that for the final rule.

5. Consultation with Government Officials

Throughout the development of the final rule, we interacted with representatives of affected State and local officials to inform them of the progress of our rulemaking efforts. We also consulted with representatives from other entities affected by the final rule, such as the American Forest & Paper Association, National Council for Air and Stream Improvement, APA-The Engineered Wood Association, Composite Panel Association, American Hardboard Association, Hardwood Plywood and Veneer Association, and representatives from affected companies.

The number of small entities that are significantly affected by today’s final PCWP standards is not expected to be substantial. The final rule contains no regulatory requirements that might significantly affect small governments because no PCWP facilities are owned by such governments. The full analysis of potential regulatory impacts on small organizations, small governments, and

small businesses is included in the economic impact analysis in the docket and is listed at the beginning of today's action under SUPPLEMENTARY INFORMATION. Because the number of small entities that are likely to experience significant economic impacts as a result of today's final standards is not expected to be substantial, no plan to inform and advise small governments is required under section 203 of the UMRA.

E. Executive Order 13132: Federalism

Executive Order 13132 (64 FR 43255, August 10, 1999) requires EPA to develop an accountable process to ensure "meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications." "Policies that have federalism implications" is defined in the Executive Order to include regulations that have "substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government." Under Executive Order 13132, the EPA may not issue a regulation that has federalism implications, that imposes substantial direct compliance costs, and that is not required by statute, unless the Federal

government provides the funds necessary to pay the direct compliance costs incurred by State and local governments, or EPA consults with State and local officials early in the process of developing the proposed regulation. The EPA also may not issue a regulation that has federalism implications and that preempts State law unless EPA consults with State and local officials early in the process of developing the proposed regulation.

If EPA complies by consulting, Executive Order 13132 requires EPA to provide to OMB, in a separately identified section of the preamble to the rule, a federalism summary impact statement (FSIS). The FSIS must include a description of the extent of EPA's prior consultation with State and local officials, a summary of the nature of their concerns and EPA's position supporting the need to issue the regulation, and a statement of the extent to which the concerns of State and local officials have been met. Also, when EPA transmits a draft final rule with federalism implications to OMB for review pursuant to Executive Order 12866, it must include a certification from EPA's Federalism Official stating that EPA has met the requirements of Executive Order 13132 in a meaningful and timely manner.

Today's final rule does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. None of the affected facilities are owned or operated by State governments, and the final rule requirements will not supercede State regulations that are more stringent. Thus, the requirements of Executive Order 13132 do not apply to the final rule.

F. Executive Order 13175: Consultation and Coordination with Indian Tribal Governments

Executive Order 13175 (65 FR 67249, November 6, 2000) requires EPA to develop an accountable process to ensure "meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications." "Policies that have tribal implications" is defined in the Executive Order to include regulations that have "substantial direct effects on one or more Indian tribes, on the relationship between the Federal government and the Indian tribes, or on the distribution of power and responsibilities between the Federal

government and Indian tribes."

Today's final rule does not have tribal implications. It will not have substantial direct effects on tribal governments, on the relationship between the Federal government and Indian tribes, or on the distribution of power and responsibilities between the Federal government and Indian tribes, as specified in Executive Order 13175. No affected plant sites are owned or operated by Indian tribal governments. Thus, Executive Order 13175 does not apply to the final rule.

G. Executive Order 13045: Protection of Children from Environmental Health & Safety Risks

Executive Order 13045 (62 FR 19885, April 23, 1997) applies to any rule that: (1) is determined to be "economically significant," as defined under Executive Order 12866, and (2) concerns an environmental health or safety risk that EPA has reason to feel may have a disproportionate effect on children. If the regulatory action meets both criteria, the EPA must evaluate the environmental health or safety effects of the planned rule on children and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the

Agency.

The Agency does not have reason to feel that the environmental health or safety risks associated with the emissions addressed by today's final rule present a disproportionate risk to children. This demonstration is based on the fact that the noncancer human health values we used in our analysis (e.g., RfC) are determined to be protective of sensitive subpopulations, including children. Also, while the cancer human health values do not always expressly account for cancer effects in children, the cancer risks posed by PCWP facilities that meet the eligibility criteria for being included in the delisted low-risk subcategory will be sufficiently low so as not to be a concern for anyone in the population, including children.

H. Executive Order 13211: Actions that Significantly Affect Energy Supply, Distribution, or Use

Executive Order 13211 (66 FR 28355, May 22, 2001) provides that agencies shall prepare and submit to the Administrator of the Office of Information and Regulatory Affairs, Office of Management and Budget, a Statement of Energy Effects for certain actions identified as "significant energy actions." Section 4(b) of Executive

Order 13211 defines “significant energy actions” as “any action by an agency (normally published in the Federal Register) that promulgates or is expected to lead to the promulgation of a final rule or regulation, including notices of inquiry, advance notices of proposed rulemaking, and notices of proposed rulemaking: (1) (i) that is a significant regulatory action under Executive Order 12866 or any successor order, and (ii) is likely to have a significant adverse effect on the supply, distribution, or use of energy; or (2) that is designated by the Administrator of the Office of Information and Regulatory Affairs as a significant energy action.” The final rule is not a “significant energy action” because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. The basis for the determination is as follows.

The final rule affects manufacturers in the softwood veneer and plywood (NAICS 321212), reconstituted wood products (NAICS 321219), and engineered wood products (NAICS 321213) industries. There is no crude oil, fuel, or coal production from these industries. Hence, there is no direct effect on such energy production related to implementation of this proposal. In fact, as previously

mentioned in this preamble, there will be an increase in energy consumption, and hence an increase in energy production, resulting from installation of RTO and WESP likely needed for sources to meet the requirements of the final rule. This increase in energy consumption is equal to 718 GWh/yr for electricity and 45 million m^3/yr (1.6 billion ft^3/yr) for natural gas. These increases are equivalent to 0.012 percent of 1998 U.S. electricity production and 0.000001 percent of 1998 U.S. natural gas production.[9] It should be noted, however, that the reduction in demand for product output from these industries may lead to a negative indirect effect on such energy production, for the output reduction will lead to less energy use by these industries and thus some reduction in overall energy production.

For fuel production, the result of this indirect effect from reduced product output is a reduction of only about 1 barrel per day nationwide, or a 0.00001 percent reduction nationwide based on 1998 U.S. fuel production

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[9]U.S. Department of Energy, Energy Information Administration. Annual Energy Review, End-Use Energy Consumption for 1998. Located on the Internet at http://www.eia.doe.gov/emeu/aer/enduse.html.

data.[10] For coal production, the resulting indirect effect from reduced product output is a reduction of only 2,000 tons per year nationwide, or only a 0.00001 percent reduction nationwide based on 1998 U.S. coal production data. For electricity production, the resulting indirect effect from reduced product output is a reduction of 42.8 GWh/yr, or only a 0.00013 percent reduction nationwide based on 1998 U.S. electricity production data. Given that the estimated price increase for product output from any of the affected industries is no more than 2.5 percent, there should be no price increase for any energy type by more than this amount. The cost of energy distribution should not be affected by the final rule at all since the rule does not affect energy distribution facilities. Finally, with changes in net exports being a minimal percentage of domestic output (0.01 percent) from the affected industries, there will be only a negligible change in international trade, and hence in dependence on foreign energy supplies. No other adverse outcomes are expected to occur with regards to energy supplies. Thus, the net effect of the final rule on energy production is an increase in electricity output of 0.012 percent

[10] Ibid.

compared to 1998 output data, and a negligible change in output of other energy types. All of the results presented above account for the passthrough of costs to consumers, as well as the cost impact to producers. These results also account for how energy use is related to product output for the affected industries.[11] For more information on the estimated energy effects, please refer to the background memo[12] to these calculations and the economic impact analysis for the final rule. The background memo and economic impact analysis are available in the public docket.

The impacts from consideration of a low-risk subcategory are a reduction in all of the energy impacts listed above. For fuel production, the result of this indirect effect from reduced product output is a reduction of only about 0.6 barrel per day nationwide, or a 0.000007 percent reduction nationwide based on 1998

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[11]U.S. Department of Energy, Energy Information Administration. 1998 Manufacturing Energy Consumption Survey. Located on the Internet at http://www.eia.doe.gov/emeu/mecs/mecs98/datatables/contents.html.

[12]U.S. Environmental Protection Agency. "Energy Impact Analysis of the Proposed Plywood and Composite Wood Products NESHAP." July 30, 2001.

U.S. fuel production data.[13] This is a 0.4 barrel smaller reduction than that estimated for the final rule. For coal production, the resulting indirect effect from reduced product output is a reduction of only 950 tons per year nationwide, or only a 0.0000044 percent reduction nationwide based on 1998 U.S. coal production data. This is a smaller reduction than that estimated for the final rule by 1,050 tons per year. For electricity production, the resulting indirect effect from reduced product output is a reduction of 20.7 million kWh/yr, or only a 0.00006 percent reduction nationwide based on 1998 U.S. electricity production data. This is a smaller output reduction than that estimated for the final rule by 22.1 million kWh/yr. Given that the estimated price increase for product output from any of the affected industries is no more than 2.5 percent, there should be no price increase for any energy type by more than this amount. The cost of energy distribution should not be affected by the final rule at all since the rule does not affect energy distribution facilities. Finally, with changes in net exports being a minimal percentage of domestic output

[13] Ibid.

(0.006 percent, or practically the same as that for the final rule) from the affected industries, there will be only a negligible change in international trade, and hence in dependence on foreign energy supplies. No other adverse outcomes are expected to occur with regards to energy supplies. Thus, the net effect on energy production if facilities are eligible for the low-risk source category is an increase in electricity output of 0.008 percent compared to 1998 output data, and a negligible change in output of other energy types. This is a 0.004 percent smaller increase in electricity output compared to the impact of the final rule. All of the results presented above account for the passthrough of costs to consumers, as well as the cost impact to producers. These results also account for how energy use is related to product output for the affected industries.[14]

Therefore, we conclude that the final rule is not likely to have a significant adverse effect on the supply, distribution, or use of energy.

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[14]U.S. Department of Energy, Energy Information Administration. 1998 Manufacturing Energy Consumption Survey. Located on the Internet at http://www.eia.doe.gov/emeu/mecs/mecs98/datatables/contents.html.

I. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act (NTTAA) of 1995 (Public Law No. 104-113; 15 U.S.C. 272 note) directs the EPA to use voluntary consensus standards in their regulatory and procurement activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, business practices) developed or adopted by one or more voluntary consensus bodies. The NTTAA directs EPA to provide Congress, through annual reports to OMB, with explanations when an agency does not use available and applicable voluntary consensus standards.

The final rulemaking involves technical standards. The EPA cites the following standards in the final rule: EPA Methods 1, 1A, 2, 2A, 2C, 2D, 2F, 2G, 3, 3A, 3B, 4, 18, 25A, and 29 in 40 CFR part 60, appendix A; 204 and 204A through F in 40 CFR part 51, appendix M; 308, 316, and 320 in 40 CFR part 63, appendix A; EPA Method 0011 in EPA publication no. SW 846 (“Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”) for formaldehyde; and two NCASI methods: NCASI Method CI/WP-

98.01 (1998), “Chilled Impinger Method For Use At Wood Products Mills to Measure Formaldehyde, Methanol, and Phenol,” and NCASI Method IM/CAN/WP-99.02 (2003), “Impinger/Canister Source Sampling Method For Selected HAPs and Other Compounds at Wood Products Facilities.”

Consistent with the NTTAA, EPA conducted searches to identify voluntary consensus standards in addition to these EPA methods/performance specifications. No applicable voluntary consensus standards were identified for EPA Methods 1A, 2A, 2D, 2F, 2G, 204, 204A through 204F, 308, and 316. The search and review results have been documented and are placed in Docket numbers OAR-2003-0048 and A-98-44 for the final rule.

One voluntary consensus standard was identified as an acceptable alternative to EPA test methods for the purposes of the final rule. The voluntary consensus standard ASTM D6348-03, “Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy,” is an acceptable alternative to EPA Method 320 provided that the percent R as determined in Annex A5 of ASTM D6348-03 is equal or greater than 70 percent and less than or equal to 130 percent. Also, the moisture

determination in ASTM D6348-03 is an acceptable alternative to the measurement of moisture using EPA Method 4.

In addition to the voluntary consensus standards the EPA uses in the final rule, the search for emissions measurement procedures identified 13 other voluntary consensus standards. The EPA determined that 11 of those 13 voluntary consensus standards identified for measuring emissions of the HAP or surrogates subject to emission standards in the rule were impractical alternatives to EPA test methods for the purposes of the final rule. Therefore, EPA does not intend to adopt those standards for that purpose. (See Dockets A-44-98 and OAR-2003-0048 for the reasons for the determination for the 11 methods.)

Table 4 to subpart DDDD of 40 CFR part 63 lists the EPA testing methods included in the regulation. Under §§63.7(f) and 63.8(f) of subpart A of the General Provisions, a source may apply to EPA for permission to use alternative test methods or alternative monitoring requirements in place of any of the EPA testing methods, performance specifications, or procedures.

J. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801 et seq., as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. The EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the Federal Register. A major rule cannot take effect until 60 days after it is published in the Federal Register. This action is a "major rule" as defined by 5 U.S.C. 804(2). The final rule will be effective [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER].

List of Subjects in 40 CFR Part 63

Environmental protection, Administrative practice and procedure, Air pollution control, Hazardous substances, Intergovernmental relations, Incorporation by reference, Reporting and recordkeeping requirements.

_____

Dated:

_____

Michael O. Leavitt,
Administrator.

For the reasons stated in the preamble, title 40, chapter I, part 63 of the Code of Federal Regulations is amended as follows:

PART 63--[AMENDED]

1. The authority citation for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401 et seq.

SUBPART A--[AMENDED]

2. Section 63.14 is amended by adding paragraph (b)(39) and revising paragraph (f) to read as follows:

§63.14 Incorporation by reference.

* * * * *

(b) * * *

(39) ASTM D6348-03, Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy, incorporation by reference (IBR) approved for Table 4 to Subpart DDDD of this part and Appendix B to subpart DDDD of this part as specified in the subpart.

* * * * *

(f) The following material is available from the National Council of the Paper Industry for Air and Stream Improvement, Inc. (NCASI), P.O. Box 133318, Research

Triangle Park, NC 27709-3318 or at http://www.ncasi.org.

(1) NCASI Method DI/MEOH-94.02, Methanol in Process Liquids GC/FID (Gas Chromatography/Flame Ionization Detection), August 1998, Methods Manual, NCASI, Research Triangle Park, NC, IBR approved for §63.457(c)(3)(ii) of subpart S of this part.

(2) NCASI Method CI/WP-98.01, Chilled Impinger Method For Use At Wood Products Mills to Measure Formaldehyde, Methanol, and Phenol, 1998, Methods Manual, NCASI, Research Triangle Park, NC, IBR approved for Table 4 to Subpart DDDD of this part and Appendix B to subpart DDDD of this part.

(3) NCASI Method IM/CAN/WP-99.02, Impinger/Canister Source Sampling Method For Selected HAPs and Other Compounds at Wood Products Facilities, January 2004, Methods Manual, NCASI, Research Triangle Park, NC, IBR approved for Table 4 to Subpart DDDD of this part and Appendix B to subpart DDDD of this part.

* * * * *

3. Part 63 is amended by adding subpart DDDD to read as follows:

Subpart DDDD--National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products

Sec.

Procedure to Determine Capture Efficiency from Enclosures Around Hot Presses in the Plywood and Composite Wood Products Industry Using Sulfur Hexafluoride Tracer Gas
Appendix B to Subpart DDDD of Part 63 – Methodology and Criteria for Demonstrating That An Affected Source is Part of the Low-risk Subcategory of Plywood and Composite Wood Products Manufacturing Facilities

What This Subpart Covers

§63.2230 What is the purpose of this subpart?

This subpart establishes national compliance options, operating requirements, and work practice requirements for hazardous air pollutants (HAP) emitted from plywood and composite wood products (PCWP) manufacturing facilities. This subpart also establishes requirements to demonstrate initial and continuous compliance with the compliance options, operating requirements, and work practice requirements.

§63.2231 Does this subpart apply to me?

This subpart applies to you if you meet the criteria in paragraphs (a) and (b) of this section, except for facilities that the Environmental Protection Agency (EPA) determines are part of the low-risk subcategory of PCWP manufacturing facilities as specified in appendix B to this subpart.

(a) You own or operate a PCWP manufacturing facility. A PCWP manufacturing facility is a facility

that manufactures plywood and/or composite wood products by bonding wood material (fibers, particles, strands, veneers, etc.) or agricultural fiber, generally with resin under heat and pressure, to form a structural panel or engineered wood product. Plywood and composite wood products manufacturing facilities also include facilities that manufacture dry veneer and lumber kilns located at any facility. Plywood and composite wood products include, but are not limited to, plywood, veneer, particleboard, oriented strandboard, hardboard, fiberboard, medium density fiberboard, laminated strand lumber, laminated veneer lumber, wood I-joists, kiln-dried lumber, and glue-laminated beams.

(b) The PCWP manufacturing facility is located at a major source of HAP emissions. A major source of HAP emissions is any stationary source or group of stationary sources within a contiguous area and under common control that emits or has the potential to emit any single HAP at a rate of 9.07 megagrams (10 tons) or more per year or any combination of HAP at a rate of 22.68 megagrams (25 tons) or more per year.

§63.2232 What parts of my plant does this subpart cover?

(a) This subpart applies to each new,

reconstructed, or existing affected source at a PCWP manufacturing facility.

(b) The affected source is the collection of dryers, refiners, blenders, formers, presses, board coolers, and other process units associated with the manufacturing of plywood and composite wood products. The affected source includes, but is not limited to, green end operations, refining, drying operations, resin preparation, blending and forming operations, pressing and board cooling operations, and miscellaneous finishing operations (such as sanding, sawing, patching, edge sealing, and other finishing operations not subject to other National Emission Standards for Hazardous Air Pollutants (NESHAP)). The affected source also includes onsite storage and preparation of raw materials used in the manufacture of plywood and/or composite wood products, such as resins; onsite wastewater treatment operations specifically associated with plywood and composite wood products manufacturing; and miscellaneous coating operations (§63.2292). The affected source includes lumber kilns at PCWP manufacturing facilities and at any other kind of facility.

(c) An affected source is a new affected source if

you commenced construction of the affected source after January 9, 2003, and you meet the applicability criteria at the time you commenced construction.

(d) An affected source is reconstructed if you meet the criteria as defined in §63.2.

(e) An affected source is existing if it is not new or reconstructed.

§63.2233 When do I have to comply with this subpart?

(a) If you have a new or reconstructed affected source, you must comply with this subpart according to paragraph (a)(1) or (2) of this section, whichever is applicable.

(1) If the initial startup of your affected source is before [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER], then you must comply with the compliance options, operating requirements, and work practice requirements for new and reconstructed sources in this subpart no later than [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER].

(2) If the initial startup of your affected source is after [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER], then you must

comply with the compliance options, operating requirements, and work practice requirements for new and reconstructed sources in this subpart upon initial startup of your affected source.

(b) If you have an existing affected source, you must comply with the compliance options, operating requirements, and work practice requirements for existing sources no later than [INSERT DATE 38 MONTHS AFTER DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER].

(c) If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, you must be in compliance with this subpart by [INSERT DATE 38 MONTHS AFTER DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER] or upon initial startup of your affected source as a major source, whichever is later.

(d) You must meet the notification requirements according to the schedule in §63.2280 and according to 40 CFR part 63, subpart A. Some of the notifications must be submitted before you are required to comply with the compliance options, operating requirements, and work practice requirements in this subpart.

Compliance Options, Operating Requirements, and Work Practice Requirements

§63.2240 What are the compliance options and operating requirements and how must I meet them?

You must meet the compliance options and operating requirements described in Tables 1A, 1B, and 2 to this subpart and in paragraph (c) of this section by using one or more of the compliance options listed in paragraphs (a), (b), and (c) of this section. The process units subject to the compliance options are listed in Tables 1A and 1B to this subpart and are defined in §63.2292. You need only to meet one of the compliance options outlined in paragraphs (a) through (c) of this section for each process unit. You cannot combine compliance options in paragraph (a), (b), or (c) for a single process unit. (For example, you cannot use a production-based compliance option in paragraph (a) for one vent of a veneer dryer and an add-on control system compliance option in paragraph (b) for another vent on the same veneer dryer. You must use either the production-based compliance option or an add-on control system compliance option for the entire dryer.)

(a) Production-based compliance options. You must

meet the production-based total HAP compliance options in Table 1A to this subpart and the applicable operating requirements in Table 2 to this subpart. You may not use an add-on control system or wet control device to meet the production-based compliance options.

(b) Compliance options for add-on control systems. You must use an emissions control system and demonstrate that the resulting emissions meet the compliance options and operating requirements in Tables 1B and 2 to this subpart. If you own or operate a reconstituted wood product press at a new or existing affected source or a reconstituted wood product board cooler at a new affected source, and you choose to comply with one of the concentration-based compliance options for a control system outlet (presented as option numbers 2, 4, and 6 in Table 1B to this subpart), you must have a capture device that either meets the definition of wood products enclosure in §63.2292 or achieves a capture efficiency of greater than or equal to 95 percent.

(c) Emissions averaging compliance option (for existing sources only). Using the procedures in paragraphs (c)(1) through (3) of this section, you must demonstrate that emissions included in the emissions

average meet the compliance options and operating requirements. New sources may not use emissions averaging to comply with this subpart.

(1) Calculation of required and actual mass removal. Limit emissions of total HAP, as defined in §63.2292, to include acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde from your affected source to the standard specified by Equations 1, 2, and 3 of this section.

$$RMR = 0.90 \times \left(\sum_{i=1}^{n} UCEP_i \times OH_i \right) \qquad \text{(Eq. 1)}$$

$$AMR = \left(\sum_{i=1}^{n} CD_i \times OCEP_i \times OH_i \right) \qquad \text{(Eq. 2)}$$

$$AMR \geq RMR \qquad \text{(Eq. 3)}$$

Where:

RMR = required mass removal of total HAP from all process units generating debits (i.e., all process units that are subject to the compliance options in Tables 1A and 1B to this subpart and that are either uncontrolled or under-controlled), pounds per semiannual period;

AMR = actual mass removal of total HAP from all process units generating credits (i.e., all process units that are controlled as part of the Emissions Averaging Plan including

credits from debit-generating process units that are under-controlled), pounds per semiannual period;

$UCEP_i$ = mass of total HAP from an uncontrolled or under-controlled process unit (i) that generates debits, pounds per hour;

OH_i = number of hours a process unit (i) is operated during the semiannual period, hours per 6-month period;

CD_i = control system efficiency for the emission point (i) for total HAP, expressed as a fraction, and not to exceed 90 percent, unitless (Note: To calculate the control system efficiency of biological treatment units that do not meet the definition of biofilter in §63.2292, you must use 40 CFR part 63, appendix C, Determination of the Fraction Biodegraded (F_{bio}) in a Biological Treatment Unit.);

$OCEP_i$ = mass of total HAP from a process unit (i) that generates credits (including credits from debit-generating process units that are under-controlled), pounds per hour;

0.90 = required control system efficiency of 90 percent multiplied, unitless.

(2) Requirements for debits and credits. You must calculate debits and credits as specified in paragraphs (c)(2)(i) through (vi) of this section.

(i) You must limit process units in the emissions average to those process units located at the existing affected source as defined in §63.2292.

(ii) You cannot use nonoperating process units to generate emissions averaging credits. You cannot use process units that are shut down to generate emissions averaging debits or credits.

(iii) You may not include in your emissions average process units controlled to comply with a State, Tribal, or Federal rule other than this subpart.

(iv) You must use actual measurements of total HAP emissions from process units to calculate your required mass removal (RMR) and actual mass removal (AMR). The total HAP measurements must be obtained according to §63.2262(b) through (d), (g), and (h), using the methods specified in Table 4 to this subpart.

(v) Your initial demonstration that the credit-generating process units will be capable of generating enough credits to offset the debits from the debit-generating process units must be made under representative operating conditions. After the compliance date, you must use actual operating data for all debit and credit calculations.

(vi) Do not include emissions from the following time periods in your emissions averaging calculations:

(A) Emissions during periods of startup, shutdown, and malfunction as described in the startup, shutdown, and malfunction plan (SSMP).

(B) Emissions during periods of monitoring malfunctions, associated repairs, and required quality

assurance or control activities or during periods of control device maintenance covered in your routine control device maintenance exemption. No credits may be assigned to credit-generating process units, and maximum debits must be assigned to debit-generating process units during these periods.

(3) Operating requirements. You must meet the operating requirements in Table 2 to this subpart for each process unit or control device used in calculation of emissions averaging credits.

§63.2241 What are the work practice requirements and how must I meet them?

(a) You must meet each work practice requirement in Table 3 to this subpart that applies to you.

(b) As provided in §63.6(g), we, the EPA, may choose to grant you permission to use an alternative to the work practice requirements in this section.

(c) If you have a dry rotary dryer, you may choose to designate your dry rotary dryer as a green rotary dryer and meet the more stringent compliance options and operating requirements in §63.2240 for green rotary dryers instead of the work practices for dry rotary dryers. If you have a hardwood veneer dryer or veneer

redryer, you may choose to designate your hardwood veneer dryer or veneer redryer as a softwood veneer dryer and meet the more stringent compliance options and operating requirements in §63.2240 for softwood veneer dryer heated zones instead of the work practices for hardwood veneer dryers or veneer redryers.

General Compliance Requirements

§63.2250 What are the general requirements?

(a) You must be in compliance with the compliance options, operating requirements, and the work practice requirements in this subpart at all times, except during periods of process unit or control device startup, shutdown, and malfunction; prior to process unit initial startup; and during the routine control device maintenance exemption specified in §63.2251. The compliance options, operating requirements, and work practice requirements do not apply during times when the process unit(s) subject to the compliance options, operating requirements, and work practice requirements are not operating, or during scheduled startup and shutdown periods, and during malfunctions. These startup and shutdown periods must not exceed the minimum amount of time necessary for these events.

(b) You must always operate and maintain your affected source, including air pollution control and monitoring equipment, according to the provisions in §63.6(e)(1)(i).

(c) You must develop and implement a written SSMP according to the provisions in §63.6(e)(3).

(d) Shutoff of direct-fired burners resulting from partial and full production stoppages of direct-fired softwood veneer dryers or over-temperature events shall be deemed shutdowns and not malfunctions. Lighting or re-lighting any one or all gas burners in direct-fired softwood veneer dryers shall be deemed startups and not malfunctions.

§63.2251 What are the requirements for the routine control device maintenance exemption?

(a) You may request a routine control device maintenance exemption from the EPA Administrator for routine maintenance events such as control device bakeouts, washouts, media replacement, and replacement of corroded parts. Your request must justify the need for the routine maintenance on the control device and the time required to accomplish the maintenance activities, describe the maintenance activities and the frequency of

the maintenance activities, explain why the maintenance cannot be accomplished during process shutdowns, describe how you plan to make reasonable efforts to minimize emissions during the maintenance, and provide any other documentation required by the EPA Administrator.

(b) The routine control device maintenance exemption must not exceed the percentages of process unit operating uptime in paragraphs (b)(1) and (2) of this section.

(1) If the control device is used to control a green rotary dryer, tube dryer, rotary strand dryer, or pressurized refiner, then the routine control device maintenance exemption must not exceed 3 percent of annual operating uptime for each process unit controlled.

(2) If the control device is used to control a softwood veneer dryer, reconstituted wood product press, reconstituted wood product board cooler, hardboard oven, press predryer, conveyor strand dryer, or fiberboard mat dryer, then the routine control device maintenance exemption must not exceed 0.5 percent of annual operating uptime for each process unit controlled.

(3) If the control device is used to control a combination of equipment listed in both paragraphs (b)(1)

and (2) of this section, such as a tube dryer and a reconstituted wood product press, then the routine control device maintenance exemption must not exceed 3 percent of annual operating uptime for each process unit controlled.

(c) The request for the routine control device maintenance exemption, if approved by the EPA Administrator, must be IBR in and attached to the affected source's title V permit.

(d) The compliance options and operating requirements do not apply during times when control device maintenance covered under your approved routine control device maintenance exemption is performed. You must minimize emissions to the greatest extent possible during these routine control device maintenance periods.

(e) To the extent practical, startup and shutdown of emission control systems must be scheduled during times when process equipment is also shut down.

Initial Compliance Requirements

§63.2260 How do I demonstrate initial compliance with the compliance options, operating requirements, and work practice requirements?

(a) To demonstrate initial compliance with the

compliance options and operating requirements, you must conduct performance tests and establish each site-specific operating requirement in Table 2 to this subpart according to the requirements in §63.2262 and Table 4 to this subpart. Combustion units that accept process exhausts into the flame zone are exempt from the initial performance testing and operating requirements for thermal oxidizers.

(b) You must demonstrate initial compliance with each compliance option, operating requirement, and work practice requirement that applies to you according to Tables 5 and 6 to this subpart and according to §§63.2260 through 63.2269 of this subpart.

(c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.2280(d).

§63.2261 By what date must I conduct performance tests or other initial compliance demonstrations?

(a) You must conduct performance tests upon initial startup or no later than 180 calendar days after the compliance date that is specified for your source in §63.2233 and according to §63.7(a)(2), whichever is

later.

(b) You must conduct initial compliance demonstrations that do not require performance tests upon initial startup or no later than 30 calendar days after the compliance date that is specified for your source in §63.2233, whichever is later.

§63.2262 How do I conduct performance tests and establish operating requirements?

(a) You must conduct each performance test according to the requirements in §63.7(e)(1), the requirements in paragraphs (b) through (o) of this section, and according to the methods specified in Table 4 to this subpart.

(b) Periods when performance tests must be conducted.

(1) You must not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in §63.7(e)(1).

(2) You must test under representative operating conditions as defined in §63.2292. You must describe representative operating conditions in your performance test report for the process and control systems and explain why they are representative.

(c) Number of test runs. You must conduct three separate test runs for each performance test required in this section as specified in §63.7(e)(3). Each test run must last at least 1 hour except for: testing of a temporary total enclosure (TTE) conducted using Methods 204A through 204F of 40 CFR part 51, appendix M, which require three separate test runs of at least 3 hours each; and testing of an enclosure conducted using the alternative tracer gas method in appendix A to this subpart, which requires a minimum of three separate runs of at least 20 minutes each.

(d) Location of sampling sites.

(1) Sampling sites must be located at the inlet (if emission reduction testing or documentation of inlet methanol or formaldehyde concentration is required) and outlet of the control device and prior to any releases to the atmosphere. For HAP-altering controls in sequence, such as a wet control device followed by a thermal oxidizer, sampling sites must be located at the functional inlet of the control sequence (e.g., prior to the wet control device) and at the outlet of the control sequence (e.g., thermal oxidizer outlet) and prior to any releases to the atmosphere.

(2) Sampling sites for process units meeting compliance options without a control device must be located prior to any releases to the atmosphere. Facilities demonstrating compliance with a production-based compliance option for a process unit equipped with a wet control device must locate sampling sites prior to the wet control device.

(e) Collection of monitoring data. You must collect operating parameter monitoring system or continuous emissions monitoring system (CEMS) data at least every 15 minutes during the entire performance test and determine the parameter or concentration value for the operating requirement during the performance test using the methods specified in paragraphs (k) through (o) of this section.

(f) Collection of production data. To comply with any of the production-based compliance options, you must measure and record the process unit throughput during each performance test.

(g) Nondetect data.

(1) Except as specified in paragraph (g)(2) of this section, all nondetect data (§63.2292) must be treated as one-half of the method detection limit when determining

total HAP, formaldehyde, methanol, or total hydrocarbon (THC) emission rates.

(2) When showing compliance with the production-based compliance options in Table 1A to this subpart, you may treat emissions of an individual HAP as zero if all three of the performance test runs result in a nondetect measurement, and the method detection limit is less than or equal to 1 parts per million by volume, dry basis (ppmvd). Otherwise, nondetect data for individual HAP must be treated as one-half of the method detection limit.

(h) Calculation of percent reduction across a control system. When determining the control system efficiency for any control system included in your emissions averaging plan (not to exceed 90 percent) and when complying with any of the compliance options based on percent reduction across a control system in Table 1B to this subpart, as part of the performance test, you must calculate the percent reduction using Equation 1 of this section:

$$PR = CE \times \frac{ER_{in} - ER_{out}}{ER_{in}}(100) \qquad \text{(Eq. 1)}$$

Where:

PR = percent reduction, percent;
CE = capture efficiency, percent (determined for reconstituted wood product presses and board coolers as required in Table 4 to this subpart);
ER_{in} = emission rate of total HAP (calculated as the sum of the emission rates of acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde), THC, formaldehyde, or methanol in the inlet vent stream of the control device, pounds per hour;
ER_{out} = emission rate of total HAP (calculated as the sum of the emission rates of acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde), THC, formaldehyde, or methanol in the outlet vent stream of the control device, pounds per hour.

(i) Calculation of mass per unit production. To comply with any of the production-based compliance options in Table 1A to this subpart, you must calculate your mass per unit production emissions for each performance test run using Equation 2 of this section:

$$MP = \frac{ER_{HAP}}{P \times CE} \qquad \text{(Eq. 2)}$$

Where:

MP = mass per unit production, pounds per oven dried ton OR pounds per thousand square feet on a specified thickness basis (see paragraph

(j) of this section if you need to convert from one thickness basis to another);

ER_{HAP} = emission rate of total HAP (calculated as the sum of the emission rates of acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde) in the stack, pounds per hour;

P = process unit production rate (throughput), oven dried tons per hour OR thousand square feet per hour on a specified thickness basis;

CE = capture efficiency, percent (determined for reconstituted wood product presses and board coolers as required in Table 4 to this subpart).

(j) Thickness basis conversion. Use Equation 3 of this section to convert from one thickness basis to another:

$$MSF_B = MSF_A \times \frac{A}{B} \qquad \text{(Eq. 3)}$$

Where:

MSF_A = thousand square feet on an A-inch basis;

MSF_B = thousand square feet on a B-inch basis;

A = old thickness you are converting from, inches;

B = new thickness you are converting to, inches.

(k) Establishing thermal oxidizer operating requirements. If you operate a thermal oxidizer, you must establish your thermal oxidizer operating parameters according to paragraphs (k)(1) through (3) of this section.

(1) During the performance test, you must

continuously monitor the firebox temperature during each of the required 1-hour test runs. For regenerative thermal oxidizers, you may measure the temperature in multiple locations (e.g., one location per burner) in the combustion chamber and calculate the average of the temperature measurements prior to reducing the temperature data to 15-minute averages for purposes of establishing your minimum firebox temperature. The minimum firebox temperature must then be established as the average of the three minimum 15-minute firebox temperatures monitored during the three test runs. Multiple three-run performance tests may be conducted to establish a range of parameter values under different operating conditions.

(2) You may establish a different minimum firebox temperature for your thermal oxidizer by submitting the notification specified in §63.2280(g) and conducting a repeat performance test as specified in paragraph (k)(1) of this section that demonstrates compliance with the applicable compliance options of this subpart.

(3) If your thermal oxidizer is a combustion unit that accepts process exhaust into the flame zone, then you are exempt from the performance testing and

monitoring requirements specified in paragraphs (k)(1) and (2) of this section. To demonstrate initial compliance, you must submit documentation with your Notification of Compliance Status showing that process exhausts controlled by the combustion unit enter into the flame zone.

(l) Establishing catalytic oxidizer operating requirements. If you operate a catalytic oxidizer, you must establish your catalytic oxidizer operating parameters according to paragraphs (l)(1) and (2) of this section.

(1) During the performance test, you must continuously monitor during the required 1-hour test runs either the temperature at the inlet to each catalyst bed or the temperature in the combustion chamber. For regenerative catalytic oxidizers, you must calculate the average of the temperature measurements from each catalyst bed inlet or within the combustion chamber prior to reducing the temperature data to 15-minute averages for purposes of establishing your minimum catalytic oxidizer temperature. The minimum catalytic oxidizer temperature must then be established as the average of the three minimum 15-minute temperatures monitored during

the three test runs. Multiple three-run performance tests may be conducted to establish a range of parameter values under different operating conditions.

(2) You may establish a different minimum catalytic oxidizer temperature by submitting the notification specified in §63.2280(g) and conducting a repeat performance test as specified in paragraphs (l)(1) and (2) of this section that demonstrates compliance with the applicable compliance options of this subpart.

(m) Establishing biofilter operating requirements. If you operate a biofilter, you must establish your biofilter operating requirements according to paragraphs (m)(1) through (3) of this section.

(1) During the performance test, you must continuously monitor the biofilter bed temperature during each of the required 1-hour test runs. To monitor biofilter bed temperature, you may use multiple thermocouples in representative locations throughout the biofilter bed and calculate the average biofilter bed temperature across these thermocouples prior to reducing the temperature data to 15-minute averages for purposes of establishing biofilter bed temperature limits. The biofilter bed temperature range must be established as

the minimum and maximum 15-minute biofilter bed temperatures monitored during the three test runs. You may base your biofilter bed temperature range on values recorded during previous performance tests provided that the data used to establish the temperature ranges have been obtained using the test methods required in this subpart. If you use data from previous performance tests, you must certify that the biofilter and associated process unit(s) have not been modified subsequent to the date of the performance tests. Replacement of the biofilter media with the same type of material is not considered a modification of the biofilter for purposes of this section.

(2) For a new biofilter installation, you will be allowed up to 180 days following the compliance date or 180 days following initial startup of the biofilter to complete the requirements in paragraph (m)(1) of this section.

(3) You may expand your biofilter bed temperature operating range by submitting the notification specified in §63.2280(g) and conducting a repeat performance test as specified in paragraph (m)(1) of this section that demonstrates compliance with the applicable compliance

options of this subpart.

(n) Establishing operating requirements for process units meeting compliance options without a control device. If you operate a process unit that meets a compliance option in Table 1A to this subpart, or is a process unit that generates debits in an emissions average without the use of a control device, you must establish your process unit operating parameters according to paragraphs (n)(1) through (2) of this section.

(1) During the performance test, you must identify and document the process unit controlling parameter(s) that affect total HAP emissions during the three-run performance test. The controlling parameters you identify must coincide with the representative operating conditions you describe according to §63.2262(b)(2). For each parameter, you must specify appropriate monitoring methods, monitoring frequencies, and for continuously monitored parameters, averaging times not to exceed 24 hours. The operating limit for each controlling parameter must then be established as the minimum, maximum, range, or average (as appropriate depending on the parameter) recorded during the performance test.

Multiple three-run performance tests may be conducted to establish a range of parameter values under different operating conditions.

(2) You may establish different controlling parameter limits for your process unit by submitting the notification specified in §63.2280(g) and conducting a repeat performance test as specified in paragraph (n)(1) of this section that demonstrates compliance with the compliance options in Table 1A to this subpart or is used to establish emission averaging debits for an uncontrolled process unit.

(o) Establishing operating requirements using THC CEMS. If you choose to meet the operating requirements by monitoring THC concentration instead of monitoring control device or process operating parameters, you must establish your THC concentration operating requirement according to paragraphs (o)(1) through (2) of this section.

(1) During the performance test, you must continuously monitor THC concentration using your CEMS during each of the required 1-hour test runs. The maximum THC concentration must then be established as the average of the three maximum 15-minute THC concentrations

monitored during the three test runs. Multiple three-run performance tests may be conducted to establish a range of THC concentration values under different operating conditions.

(2) You may establish a different maximum THC concentration by submitting the notification specified in §63.2280(g) and conducting a repeat performance test as specified in paragraph (o)(1) of this section that demonstrates compliance with the compliance options in Tables 1A and 1B to this subpart.

§63.2263 Initial compliance demonstration for a dry rotary dryer.

If you operate a dry rotary dryer, you must demonstrate that your dryer processes furnish with an inlet moisture content of less than or equal to 30 percent (by weight, dry basis) and operates with a dryer inlet temperature of less than or equal to 600°F. You must designate and clearly identify each dry rotary dryer. You must record the inlet furnish moisture content (dry basis) and inlet dryer operating temperature according to §63.2269(a), (b), and (c) and §63.2270 for a minimum of 30 calendar days. You must submit the highest recorded 24-hour average inlet furnish moisture content

and the highest recorded 24-hour average dryer inlet temperature with your Notification of Compliance Status. In addition, you must submit with the Notification of Compliance Status a signed statement by a responsible official that certifies with truth, accuracy, and completeness that the dry rotary dryer will dry furnish with a maximum inlet moisture content less than or equal to 30 percent (by weight, dry basis) and will operate with a maximum inlet temperature of less than or equal to 600°F in the future.

§63.2264 Initial compliance demonstration for a hardwood veneer dryer.

If you operate a hardwood veneer dryer, you must record the annual volume percentage of softwood veneer species processed in the dryer as follows:

(a) Use Equation 1 of this section to calculate the annual volume percentage of softwood species dried:

$$SW_{\%} = \frac{SW}{T}(100) \qquad \text{(Eq. 1)}$$

Where:

$SW_{\%}$ = annual volume percent softwood species dried;
SW = softwood veneer dried during the previous 12 months, thousand square feet (3/8-inch basis);
T = total softwood and hardwood veneer dried

during the previous 12 months, thousand square feet (3/8-inch basis).

(b) You must designate and clearly identify each hardwood veneer dryer. Submit with the Notification of Compliance Status the annual volume percentage of softwood species dried in the dryer based on your dryer production for the 12 months prior to the compliance date specified for your source in §63.2233. If you did not dry any softwood species in the dryer during the 12 months prior to the compliance date, then you need only to submit a statement indicating that no softwood species were dried. In addition, submit with the Notification of Compliance Status a signed statement by a responsible official that certifies with truth, accuracy, and completeness that the veneer dryer will be used to process less than 30 volume percent softwood species in the future.

§63.2265 Initial compliance demonstration for a softwood veneer dryer.

If you operate a softwood veneer dryer, you must develop a plan for review and approval for minimizing fugitive emissions from the veneer dryer heated zones, and you must submit the plan with your Notification of Compliance Status.

§63.2266 Initial compliance demonstration for a veneer redryer.

If you operate a veneer redryer, you must record the inlet moisture content of the veneer processed in the redryer according to §63.2269(a) and (c) and §63.2270 for a minimum of 30 calendar days. You must designate and clearly identify each veneer redryer. You must submit the highest recorded 24-hour average inlet veneer moisture content with your Notification of Compliance Status to show that your veneer redryer processes veneer with an inlet moisture content of less than or equal to 25 percent (by weight, dry basis). In addition, submit with the Notification of Compliance Status a signed statement by a responsible official that certifies with truth, accuracy, and completeness that the veneer redryer will dry veneer with a moisture content less than 25 percent (by weight, dry basis) in the future.

§63.2267 Initial compliance demonstration for a reconstituted wood product press or board cooler.

If you operate a reconstituted wood product press at a new or existing affected source or a reconstituted wood product board cooler at a new affected source, then you must either use a wood products enclosure as defined in

§63.2292 or measure the capture efficiency of the capture device for the press or board cooler using Methods 204 and 204A through 204F of 40 CFR part 51, appendix M (as appropriate), or using the alternative tracer gas method contained in appendix A to this subpart. You must submit documentation that the wood products enclosure meets the press enclosure design criteria in §63.2292 or the results of the capture efficiency verification with your Notification of Compliance Status.

§63.2268 Initial compliance demonstration for a wet control device.

If you use a wet control device as the sole means of reducing HAP emissions, you must develop and implement a plan for review and approval to address how organic HAP captured in the wastewater from the wet control device is contained or destroyed to minimize re-release to the atmosphere such that the desired emissions reductions are obtained. You must submit the plan with your Notification of Compliance Status.

§63.2269 What are my monitoring installation, operation, and maintenance requirements?

(a) General continuous parameter monitoring requirements. You must install, operate, and maintain

each continuous parameter monitoring system (CPMS) according to paragraphs (a)(1) through (3) of this section.

(1) The CPMS must be capable of completing a minimum of one cycle of operation (sampling, analyzing, and recording) for each successive 15-minute period.

(2) At all times, you must maintain the monitoring equipment including, but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

(3) Record the results of each inspection, calibration, and validation check.

(b) Temperature monitoring. For each temperature monitoring device, you must meet the requirements in paragraphs (a) and (b)(1) through (6) of this section.

(1) Locate the temperature sensor in a position that provides a representative temperature.

(2) Use a temperature sensor with a minimum accuracy of 4°F or 0.75 percent of the temperature value, whichever is larger.

(3) If a chart recorder is used, it must have a sensitivity with minor divisions not more than 20°F.

(4) Perform an electronic calibration at least

semiannually according to the procedures in the manufacturer’s owners manual. Following the electronic calibration, you must conduct a temperature sensor validation check in which a second or redundant temperature sensor placed nearby the process temperature sensor must yield a reading within 30°F of the process temperature sensor’s reading.

(5) Conduct calibration and validation checks any time the sensor exceeds the manufacturer’s specified maximum operating temperature range or install a new temperature sensor.

(6) At least quarterly, inspect all components for integrity and all electrical connections for continuity, oxidation, and galvanic corrosion.

(c) Wood moisture monitoring. For each furnish or veneer moisture meter, you must meet the requirements in paragraphs (a)(1), (2), (4) and (5) and paragraphs (c)(1) through (4) of this section.

(1) For dry rotary dryers, use a continuous moisture monitor with a minimum accuracy of 1 percent (dry basis) moisture or better in the 25 to 35 percent (dry basis) moisture content range. For veneer redryers, use a continuous moisture monitor with a minimum accuracy

of 3 percent (dry basis) moisture or better in the 15 to 25 percent (dry basis) moisture content range. Alternatively, you may use a continuous moisture monitor with a minimum accuracy of 5 percent (dry basis) moisture or better for dry rotary dryers used to dry furnish with less than 25 percent (dry basis) moisture or for veneer redryers used to redry veneer with less than 20 percent (dry basis) moisture.

(2) Locate the moisture monitor in a position that provides a representative measure of furnish or veneer moisture.

(3) Calibrate the moisture monitor based on the procedures specified by the moisture monitor manufacturer at least once per semiannual compliance period (or more frequently if recommended by the moisture monitor manufacturer).

(4) At least quarterly, inspect all components of the moisture monitor for integrity and all electrical connections for continuity.

(5) Use Equation 1 of this section to convert percent moisture measurements wet basis to a dry basis:

$$MC_{dry} = \frac{MC_{wet}/100}{1-\left(MC_{wet}/100\right)}(100) \quad \text{(Eq. 1)}$$

Where:

MC_{dry} = percent moisture content of wood material (weight percent, dry basis);
MC_{wet} = percent moisture content of wood material (weight percent, wet basis).

(d) Continuous emission monitoring system(s). Each CEMS must be installed, operated, and maintained according to paragraphs (d)(1) through (4) of this section.

(1) Each CEMS for monitoring THC concentration must be installed, operated, and maintained according to Performance Specification 8 of 40 CFR part 60, appendix B. You must also comply with Procedure 1 of 40 CFR part 60, appendix F.

(2) You must conduct a performance evaluation of each CEMS according to the requirements in §63.8 and according to Performance Specification 8 of 40 CFR part 60, appendix B.

(3) As specified in §63.8(c)(4)(ii), each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(4) The CEMS data must be reduced as specified in §63.8(g)(2) and §63.2270(d) and (e).

Continuous Compliance Requirements

§63.2270 How do I monitor and collect data to demonstrate continuous compliance?

(a) You must monitor and collect data according to this section.

(b) Except for, as appropriate, monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must conduct all monitoring in continuous operation at all times that the process unit is operating. For purposes of calculating data averages, you must not use data recorded during monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or control activities. You must use all the data collected during all other periods in assessing compliance. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. Any period for which the monitoring system is out-of-control and data are not available for required calculations constitutes a

deviation from the monitoring requirements.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities; data recorded during periods of startup, shutdown, and malfunction; or data recorded during periods of control device downtime covered in any approved routine control device maintenance exemption in data averages and calculations used to report emission or operating levels, nor may such data be used in fulfilling a minimum data availability requirement, if applicable. You must use all the data collected during all other periods in assessing the operation of the control system.

(d) Except as provided in paragraph (e) of this section, determine the 3-hour block average of all recorded readings, calculated after every 3 hours of operation as the average of the evenly spaced recorded readings in the previous 3 operating hours (excluding periods described in paragraphs (b) and (c) of this section).

(e) For dry rotary dryer and veneer redryer wood moisture monitoring, dry rotary dryer temperature monitoring, biofilter bed temperature monitoring, and

biofilter outlet THC monitoring, determine the 24-hour block average of all recorded readings, calculated after every 24 hours of operation as the average of the evenly spaced recorded readings in the previous 24 operating hours (excluding periods described in paragraphs (b) and (c) of this section).

(f) To calculate the data averages for each 3-hour or 24-hour averaging period, you must have at least 75 percent of the required recorded readings for that period using only recorded readings that are based on valid data (i.e., not from periods described in paragraphs (b) and (c) of this section).

§63.2271 How do I demonstrate continuous compliance with the compliance options, operating requirements, and work practice requirements?

(a) You must demonstrate continuous compliance with the compliance options, operating requirements, and work practice requirements in §§63.2240 and 63.2241 that apply to you according to the methods specified in Tables 7 and 8 to this subpart.

(b) You must report each instance in which you did not meet each compliance option, operating requirement, and work practice requirement in Tables 7 and 8 to this

subpart that applies to you. This includes periods of startup, shutdown, and malfunction and periods of control device maintenance specified in paragraphs (b)(1) through (3) of this section. These instances are deviations from the compliance options, operating requirements, and work practice requirements in this subpart. These deviations must be reported according to the requirements in §63.2281.

(1) During periods of startup, shutdown, and malfunction, you must operate in accordance with the SSMP.

(2) Consistent with §§63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if you demonstrate to the EPA Administrator’s satisfaction that you were operating in accordance with the SSMP. The EPA Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in §63.6(e).

(3) Deviations that occur during periods of control device maintenance covered by any approved routine control device maintenance exemption are not violations

if you demonstrate to the EPA Administrator's satisfaction that you were operating in accordance with the approved routine control device maintenance exemption.

Notifications, Reports, and Records

§63.2280 What notifications must I submit and when?

(a) You must submit all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9 (b) through (e), and (g) and (h) by the dates specified.

(b) You must submit an Initial Notification no later than 120 calendar days after [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER] or after initial startup, whichever is later, as specified in §63.9(b)(2).

(c) If you are required to conduct a performance test, you must submit a written notification of intent to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin as specified in §63.7(b)(1).

(d) If you are required to conduct a performance test, design evaluation, or other initial compliance demonstration as specified in Tables 4, 5, and 6 to this subpart, you must submit a Notification of Compliance

Status as specified in §63.9(h)(2)(ii).

(1) For each initial compliance demonstration required in Table 5 or 6 to this subpart that does not include a performance test, you must submit the Notification of Compliance Status before the close of business on the 30th calendar day following the completion of the initial compliance demonstration.

(2) For each initial compliance demonstration required in Tables 5 and 6 to this subpart that includes a performance test conducted according to the requirements in Table 4 to this subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th calendar day following the completion of the performance test according to §63.10(d)(2).

(e) If you request a routine control device maintenance exemption according to §63.2251, you must submit your request for the exemption no later than 30 days before the compliance date.

(f) If you use the emissions averaging compliance option in §63.2240(c), you must submit an Emissions Averaging Plan to the EPA Administrator for approval no later than 1 year before the compliance date or no later

than 1 year before the date you would begin using an emissions average, whichever is later. The Emissions Averaging Plan must include the information in paragraphs (f)(1) through (6) of this section.

(1) Identification of all the process units to be included in the emissions average indicating which process units will be used to generate credits, and which process units that are subject to compliance options in Tables 1A and 1B to this subpart will be uncontrolled (used to generate debits) or under-controlled (used to generate debits and credits).

(2) Description of the control system used to generate emission credits for each process unit used to generate credits.

(3) Determination of the total HAP control efficiency for the control system used to generate emission credits for each credit-generating process unit.

(4) Calculation of the RMR and AMR, as calculated using Equations 1 through 3 of §63.2240(c)(1).

(5) Documentation of total HAP measurements made according to §63.2240(c)(2)(iv) and other relevant documentation to support calculation of the RMR and AMR.

(6) A summary of the operating parameters you will

monitor and monitoring methods for each debit-generating and credit-generating process unit.

(g) You must notify the EPA Administrator within 30 days before you take any of the actions specified in paragraphs (g)(1) through (3) of this section.

(1) You modify or replace the control system for any process unit subject to the compliance options and operating requirements in this subpart.

(2) You shut down any process unit included in your Emissions Averaging Plan.

(3) You change a continuous monitoring parameter or the value or range of values of a continuous monitoring parameter for any process unit or control device.

§63.2281 What reports must I submit and when?

(a) You must submit each report in Table 9 to this subpart that applies to you.

(b) Unless the EPA Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report by the date in Table 9 to this subpart and as specified in paragraphs (b)(1) through (5) of this section.

(1) The first compliance report must cover the period beginning on the compliance date that is specified

for your affected source in §63.2233 ending on June 30 or December 31, and lasting at least 6 months, but less than 12 months. For example, if your compliance date is March 1, then the first semiannual reporting period would begin on March 1 and end on December 31.

(2) The first compliance report must be postmarked or delivered no later than July 31 or January 31 for compliance periods ending on June 30 and December 31, respectively.

(3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31 for the semiannual reporting period ending on June 30 and December 31, respectively.

(5) For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to §70.6(a)(3)(iii)(A) or §71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance

reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (4) of this section.

(c) The compliance report must contain the information in paragraphs (c)(1) through (8) of this section.

(1) Company name and address.

(2) Statement by a responsible official with that official’s name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) If you had a startup, shutdown, or malfunction during the reporting period and you took actions consistent with your SSMP, the compliance report must include the information specified in §63.10(d)(5)(i).

(5) A description of control device maintenance performed while the control device was offline and one or more of the process units controlled by the control device was operating, including the information specified in paragraphs (c)(5)(i) through (iii) of this section.

(i) The date and time when the control device was

shut down and restarted.

(ii) Identification of the process units that were operating and the number of hours that each process unit operated while the control device was offline.

(iii) A statement of whether or not the control device maintenance was included in your approved routine control device maintenance exemption developed pursuant to §63.2251. If the control device maintenance was included in your approved routine control device maintenance exemption, then you must report the information in paragraphs (c)(5)(iii)(A) through (C) of this section.

(A) The total amount of time that each process unit controlled by the control device operated during the semiannual compliance period and during the previous semiannual compliance period.

(B) The amount of time that each process unit controlled by the control device operated while the control device was down for maintenance covered under the routine control device maintenance exemption during the semiannual compliance period and during the previous semiannual compliance period.

(C) Based on the information recorded under

paragraphs (c)(5)(iii)(A) and (B) of this section for each process unit, compute the annual percent of process unit operating uptime during which the control device was offline for routine maintenance using Equation 1 of this section.

$$\mathbf{RM} = \frac{\mathbf{DT_p} + \mathbf{DT_c}}{\mathbf{PU_p} + \mathbf{PU_c}} \qquad \text{(Eq. 1)}$$

Where:

RM = Annual percentage of process unit uptime during which control device is down for routine control device maintenance;
PU_p = Process unit uptime for the previous semiannual compliance period;
PU_c = Process unit uptime for the current semiannual compliance period;
DT_p = Control device downtime claimed under the routine control device maintenance exemption for the previous semiannual compliance period;
DT_c = Control device downtime claimed under the routine control device maintenance exemption for the current semiannual compliance period.

(6) The results of any performance tests conducted during the semiannual reporting period.

(7) If there are no deviations from any applicable compliance option or operating requirement, and there are no deviations from the requirements for work practice

requirements in Table 8 to this subpart, a statement that there were no deviations from the compliance options, operating requirements, or work practice requirements during the reporting period.

(8) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(d) For each deviation from a compliance option or operating requirement and for each deviation from the work practice requirements in Table 8 to this subpart that occurs at an affected source where you are not using a CMS to comply with the compliance options, operating requirements, or work practice requirements in this subpart, the compliance report must contain the information in paragraphs (c)(1) through (6) of this section and in paragraphs (d)(1) and (2) of this section. This includes periods of startup, shutdown, and malfunction and routine control device maintenance.

(1) The total operating time of each affected source during the reporting period.

(2) Information on the number, duration, and cause

of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(e) For each deviation from a compliance option or operating requirement occurring at an affected source where you are using a CMS to comply with the compliance options and operating requirements in this subpart, you must include the information in paragraphs (c)(1) through (6) and paragraphs (e)(1) through (11) of this section. This includes periods of startup, shutdown, and malfunction and routine control device maintenance.

(1) The date and time that each malfunction started and stopped.

(2) The date and time that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out-of-control, including the information in §63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction; during a period of control device maintenance covered in your approved routine control device maintenance exemption; or during another period.

(5) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control system problems, control device maintenance, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period and the total duration of CMS downtime as a percent of the total source operating time during that reporting period.

(8) A brief description of the process units.

(9) A brief description of the CMS.

(10) The date of the latest CMS certification or audit.

(11) A description of any changes in CMS, processes, or controls since the last reporting period.

(f) If you comply with the emissions averaging compliance option in §63.2240(c), you must include in your semiannual compliance report calculations based on operating data from the semiannual reporting period that

demonstrate that actual mass removal equals or exceeds the required mass removal.

(g) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 40 CFR part 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by §70.6(a)(3)(iii)(A) or §71.6(a)(3)(iii)(A). If an affected source submits a compliance report pursuant to Table 9 to this subpart along with, or as part of, the semiannual monitoring report required by §70.6(a)(3)(iii)(A) or §71.6(a)(3)(iii)(A), and the compliance report includes all required information concerning deviations from any compliance option, operating requirement, or work practice requirement in this subpart, submission of the compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permitting authority.

§63.2282 What records must I keep?

(a) You must keep the records listed in paragraphs

(a)(1) through (4) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirements in §63.10(b)(2)(xiv).

(2) The records in §63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

(3) The records in §63.2250(e) relating to control device maintenance and documentation of your approved routine control device maintenance exemption, if you request such an exemption under §63.2251.

(4) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).

(b) You must keep the records required in Tables 7 and 8 to this subpart to show continuous compliance with each compliance option, operating requirement, and work practice requirement that applies to you.

(c) For each CEMS, you must keep the following records.

(1) Records described in §63.10(b)(2)(vi) through (xi).

(2) Previous (i.e., superseded) versions of the

performance evaluation plan as required in §63.8(d)(3).

(3) Request for alternatives to relative accuracy testing for CEMS as required in §63.8(f)(6)(i).

(4) Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(d) If you comply with the emissions averaging compliance option in §63.2240(c), you must keep records of all information required to calculate emission debits and credits.

(e) If you operate a catalytic oxidizer, you must keep records of annual catalyst activity checks and subsequent corrective actions.

§63.2283 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review as specified in §63.10(b)(1).

(b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record according to §63.10(b)(1). You can keep the records offsite for the remaining 3 years.

Other Requirements and Information

§63.2290 What parts of the General Provisions apply to me?

Table 10 to this subpart shows which parts of the General Provisions in §§63.1 through 63.13 apply to you.

§63.2291 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by the U.S. EPA or a delegated authority such as your State, local, or tribal agency. If the EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained

by the EPA Administrator and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are listed in paragraphs (c)(1) through (5) of this section.

(1) Approval of alternatives to the compliance options, operating requirements, and work practice requirements in §§63.2240 and 63.2241 as specified in §63.6(g). For the purposes of delegation authority under 40 CFR part 63, subpart E, “compliance options” represent “emission limits”; “operating requirements” represent “operating limits”; and “work practice requirements” represent “work practice standards.”

(2) Approval of major alternatives to test methods as specified in §63.7(e)(2)(ii) and (f) and as defined in §63.90.

(3) Approval of major alternatives to monitoring as specified in §63.8(f) and as defined in §63.90.

(4) Approval of major alternatives to recordkeeping and reporting as specified in §63.10(f) and as defined in §63.90.

(5) Approval of PCWP sources demonstrations of eligibility for the low-risk subcategory developed

according to appendix B of this subpart.

§63.2292 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act (CAA), in 40 CFR 63.2, the General Provisions, and in this section as follows:

Affected source means the collection of dryers, refiners, blenders, formers, presses, board coolers, and other process units associated with the manufacturing of plywood and composite wood products. The affected source includes, but is not limited to, green end operations, refining, drying operations, resin preparation, blending and forming operations, pressing and board cooling operations, and miscellaneous finishing operations (such as sanding, sawing, patching, edge sealing, and other finishing operations not subject to other NESHAP). The affected source also includes onsite storage of raw materials used in the manufacture of plywood and/or composite wood products, such as resins; onsite wastewater treatment operations specifically associated with plywood and composite wood products manufacturing; and miscellaneous coating operations (defined elsewhere in this section). The affected source includes lumber kilns at PCWP manufacturing facilities and at any other

kind of facility.

Agricultural fiber means the fiber of an annual agricultural crop. Examples of agricultural fibers include, but are not limited to, wheat straw, rice straw, and bagasse.

Biofilter means an enclosed control system such as a tank or series of tanks with a fixed roof that contact emissions with a solid media (such as bark) and use microbiological activity to transform organic pollutants in a process exhaust stream to innocuous compounds such as carbon dioxide, water, and inorganic salts. Wastewater treatment systems such as aeration lagoons or activated sludge systems are not considered to be biofilters.

Capture device means a hood, enclosure, or other means of collecting emissions into a duct so that the emissions can be measured.

Capture efficiency means the fraction (expressed as a percentage) of the pollutants from an emission source that are collected by a capture device.

Catalytic oxidizer means a control system that combusts or oxidizes, in the presence of a catalyst, exhaust gas from a process unit. Catalytic oxidizers

include regenerative catalytic oxidizers and thermal catalytic oxidizers.

Combustion unit means a dryer burner, process heater, or boiler used for combustion of organic HAP emissions.

Control device means any equipment that reduces the quantity of HAP emitted to the air. The device may destroy the HAP or secure the HAP for subsequent recovery. Control devices include, but are not limited to, thermal or catalytic oxidizers, combustion units that incinerate process exhausts, biofilters, and condensers.

Control system or add-on control system means the combination of capture and control devices used to reduce HAP emissions to the atmosphere.

Conveyor strand dryer means a conveyor dryer used to reduce the moisture of wood strands used in the manufacture of oriented strandboard, laminated strand lumber, or other wood strand-based products. A conveyor strand dryer is a process unit.

Conveyor strand dryer zone means each portion of a conveyor strand dryer with a separate heat exchange system and exhaust vent(s). Conveyor strand dryers contain multiple zones (e.g., three zones), which may be

divided into multiple sections.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart including, but not limited to, any compliance option, operating requirement, or work practice requirement;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart, and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any compliance option, operating requirement, or work practice requirement in this subpart during startup, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart. A deviation is not always a violation. The determination of whether a deviation constitutes a violation of the standard is up to the discretion of the entity responsible for enforcement of the standards.

Dryer heated zones means the zones of a softwood veneer dryer or fiberboard mat dryer that are equipped with heating and hot air circulation units. The cooling

zone(s) of the dryer through which ambient air is blown are not part of the dryer heated zones.

Dry rotary dryer means a rotary dryer that dries wood particles or fibers with a maximum inlet moisture content of less than or equal to 30 percent (by weight, dry basis) and operates with a maximum inlet temperature of less than or equal to 600°F. A dry rotary dryer is a process unit.

Dry forming means the process of making a mat of resinated fiber to be compressed into a reconstituted wood product such as particleboard, oriented strandboard, medium density fiberboard, or hardboard.

Fiber means the discrete elements of wood or similar cellulosic material, which are separated by mechanical means, as in refining, that can be formed into boards.

Fiberboard means a composite panel composed of cellulosic fibers (usually wood or agricultural material) made by wet forming and compacting a mat of fibers. Fiberboard density generally is less than 0.50 grams per cubic centimeter (31.5 pounds per cubic foot).

Fiberboard mat dryer means a dryer used to reduce the moisture of wet-formed wood fiber mats by operation at elevated temperature. A fiberboard mat dryer is a

process unit.

Flame zone means the portion of the combustion chamber in a combustion unit that is occupied by the flame envelope.

Furnish means the fibers, particles, or strands used for making boards.

Glue-laminated beam means a structural wood beam made by bonding lumber together along its faces with resin.

Green rotary dryer means a rotary dryer that dries wood particles or fibers with an inlet moisture content of greater than 30 percent (by weight, dry basis) at any dryer inlet temperature or operates with an inlet temperature of greater than 600^{o}F with any inlet moisture content. A green rotary dryer is a process unit.

Group 1 miscellaneous coating operations means application of edge seals, nail lines, logo (or other information) paint, shelving edge fillers, trademark/gradestamp inks, and wood putty patches to plywood and composite wood products (except kiln-dried lumber) on the same site where the plywood and composite wood products are manufactured. Group 1 miscellaneous coating operations also include application of synthetic

patches to plywood at new affected sources.

Hardboard means a composite panel composed of inter-felted cellulosic fibers made by dry or wet forming and pressing of a resinated fiber mat. Hardboard generally has a density of 0.50 grams per cubic centimeter (31.5 pounds per cubic foot) or greater.

Hardboard oven means an oven used to heat treat or temper hardboard after hot pressing. Humidification chambers are not considered as part of hardboard ovens. A hardboard oven is a process unit.

Hardwood means the wood of a broad-leafed tree, either deciduous or evergreen. Examples of hardwoods include, but are not limited to, aspen, birch, poplar, and oak.

Hardwood veneer dryer means a dryer that removes excess moisture from veneer by conveying the veneer through a heated medium on rollers, belts, cables, or wire mesh. Hardwood veneer dryers are used to dry veneer with less than 30 percent softwood species on an annual volume basis. Veneer kilns that operate as batch units, veneer dryers heated by radio frequency or microwaves that are used to redry veneer, and veneer redryers (defined elsewhere in this section) that are heated by

conventional means are not considered to be hardwood veneer dryers. A hardwood veneer dryer is a process unit.

Kiln-dried lumber means solid wood lumber that has been dried in a lumber kiln.

Laminated strand lumber (LSL) means a composite product formed into a billet made of thin wood strands cut from whole logs, resinated, and pressed together with the grain of each strand oriented parallel to the length of the finished product.

Laminated veneer lumber (LVL) means a composite product formed into a billet made from layers of resinated wood veneer sheets or pieces pressed together with the grain of each veneer aligned primarily along the length of the finished product. Laminated veneer lumber includes parallel strand lumber (PSL).

Lumber kiln means an enclosed dryer operated at elevated temperature to reduce the moisture content of lumber.

Medium density fiberboard (MDF) means a composite panel composed of cellulosic fibers (usually wood or agricultural fiber) made by dry forming and pressing of a resinated fiber mat.

Method detection limit means the minimum concentration of an analyte that can be determined with 99 percent confidence that the true value is greater than zero.

Miscellaneous coating operations means application of any of the following to plywood or composite wood products: edge seals, moisture sealants, anti-skid coatings, company logos, trademark or grade stamps, nail lines, synthetic patches, wood patches, wood putty, concrete forming oils, glues for veneer composing, and shelving edge fillers. Miscellaneous coating operations also include the application of primer to oriented strandboard siding that occurs at the same site as oriented strandboard manufacture and application of asphalt, clay slurry, or titanium dioxide coatings to fiberboard at the same site of fiberboard manufacture.

MSF means thousand square feet (92.9 square meters). Square footage of panels is usually measured on a thickness basis, such as 3/8-inch, to define the total volume of panels. Equation 6 of §63.2262(j) shows how to convert from one thickness basis to another.

Nondetect data means, for the purposes of this subpart, any value that is below the method detection

limit.

Non-HAP coating means a coating with HAP contents below 0.1 percent by mass for Occupational Safety and Health Administration-defined carcinogens as specified in 29 CFR 1910.1200(d)(4), and below 1.0 percent by mass for other HAP compounds.

Oriented strandboard (OSB) means a composite panel produced from thin wood strands cut from whole logs, formed into resinated layers (with the grain of strands in one layer oriented perpendicular to the strands in adjacent layers), and pressed.

Oven-dried ton(s) (ODT) means tons of wood dried until all of the moisture in the wood is removed. One oven-dried ton equals 907 oven-dried kilograms.

Partial wood products enclosure means an enclosure that does not meet the design criteria for a wood products enclosure as defined in this subpart.

Particle means a discrete, small piece of cellulosic material (usually wood or agricultural fiber) produced mechanically and used as the aggregate for a particleboard.

Particleboard means a composite panel composed primarily of cellulosic materials (usually wood or

agricultural fiber) generally in the form of discrete pieces or particles, as distinguished from fibers, which are pressed together with resin.

Plywood and composite wood products (PCWP) manufacturing facility means a facility that manufactures plywood and/or composite wood products by bonding wood material (fibers, particles, strands, veneers, etc.) or agricultural fiber, generally with resin under heat and pressure, to form a structural panel or engineered wood product. Plywood and composite wood products manufacturing facilities also include facilities that manufacture dry veneer and lumber kilns located at any facility. Plywood and composite wood products include, but are not limited to, plywood, veneer, particleboard, oriented strandboard, hardboard, fiberboard, medium density fiberboard, laminated strand lumber, laminated veneer lumber, wood I-joists, kiln-dried lumber, and glue-laminated beams.

Plywood means a panel product consisting of layers of wood veneers hot pressed together with resin. Plywood includes panel products made by hot pressing (with resin) veneers to a substrate such as particleboard, medium density fiberboard, or lumber.

Press predryer means a dryer used to reduce the moisture and elevate the temperature of a wet-formed fiber mat before the mat enters a hot press. A press predryer is a process unit.

Pressurized refiner means a piece of equipment operated under pressure for preheating (usually by steaming) wood material and refining (rubbing or grinding) the wood material into fibers. Pressurized refiners are operated with continuous infeed and outfeed of wood material and maintain elevated internal pressures (i.e., there is no pressure release) throughout the preheating and refining process. A pressurized refiner is a process unit.

Primary tube dryer means a single-stage tube dryer or the first stage of a multi-stage tube dryer. Tube dryer stages are separated by vents for removal of moist gases between stages (e.g., a product cyclone at the end of a single-stage dryer or between the first and second stages of a multi-stage tube dryer). The first stage of a multi-stage tube dryer is used to remove the majority of the moisture from the wood furnish (compared to the moisture reduction in subsequent stages of the tube dryer). Blow-lines used to apply resin are considered

part of the primary tube dryer. A primary tube dryer is a process unit.

Process unit means equipment classified according to its function such as a blender, dryer, press, former, or board cooler.

Reconstituted wood product board cooler means a piece of equipment designed to reduce the temperature of a board by means of forced air or convection within a controlled time period after the board exits the reconstituted wood product press unloader. Board coolers include wicket and star type coolers commonly found at medium density fiberboard and particleboard plants. Board coolers do not include cooling sections of dryers (e.g., veneer dryers or fiberboard mat dryers) or coolers integrated into or following hardboard bake ovens or humidifiers. A reconstituted wood product board cooler is a process unit.

Reconstituted wood product press means a press, including (if applicable) the press unloader, that presses a resinated mat of wood fibers, particles, or strands between hot platens or hot rollers to compact and set the mat into a panel by simultaneous application of heat and pressure. Reconstituted wood product presses

are used in the manufacture of hardboard, medium density fiberboard, particleboard, and oriented strandboard. Extruders are not considered to be reconstituted wood product presses. A reconstituted wood product press is a process unit.

Representative operating conditions means operation of a process unit during performance testing under the conditions that the process unit will typically be operating in the future, including use of a representative range of materials (e.g., wood material of a typical species mix and moisture content or typical resin formulation) and representative operating temperature range.

Resin means the synthetic adhesive (including glue) or natural binder, including additives, used to bond wood or other cellulosic materials together to produce plywood and composite wood products.

Responsible official means responsible official as defined in 40 CFR 70.2 and 40 CFR 71.2.

Rotary strand dryer means a rotary dryer operated at elevated temperature and used to reduce the moisture of wood strands used in the manufacture of oriented strandboard, laminated strand lumber, or other wood

strand-based products. A rotary strand dryer is a process unit.

Secondary tube dryer means the second stage and subsequent stages following the primary stage of a multi-stage tube dryer. Secondary tube dryers, also referred to as relay dryers, operate at lower temperatures than the primary tube dryer they follow. Secondary tube dryers are used to remove only a small amount of the furnish moisture compared to the furnish moisture reduction across the primary tube dryer. A secondary tube dryer is a process unit.

Softwood means the wood of a coniferous tree. Examples of softwoods include, but are not limited to, Southern yellow pine, Douglas fir, and White spruce.

Softwood veneer dryer means a dryer that removes excess moisture from veneer by conveying the veneer through a heated medium, generally on rollers, belts, cables, or wire mesh. Softwood veneer dryers are used to dry veneer with greater than or equal to 30 percent softwood species on an annual volume basis. Veneer kilns that operate as batch units, veneer dryers heated by radio frequency or microwaves that are used to redry veneer, and veneer redryers (defined elsewhere in this

section) that are heated by conventional means are not considered to be softwood veneer dryers. A softwood veneer dryer is a process unit.

Startup means bringing equipment online and starting the production process.

Startup, initial means the first time equipment is put into operation. Initial startup does not include operation solely for testing equipment. Initial startup does not include subsequent startups (as defined in this section) following malfunction or shutdowns or following changes in product or between batch operations. Initial startup does not include startup of equipment that occurred when the source was an area source.

Startup, shutdown, and malfunction plan (SSMP) means a plan developed according to the provisions of §63.6(e)(3).

Strand means a long (with respect to thickness and width), flat wood piece specially cut from a log for use in oriented strandboard, laminated strand lumber, or other wood strand-based product.

Temporary total enclosure (TTE) means an enclosure constructed for the purpose of measuring the capture efficiency of pollutants emitted from a given source, as

defined in Method 204 of 40 CFR part 51, appendix M.

Thermal oxidizer means a control system that combusts or oxidizes exhaust gas from a process unit. Thermal oxidizers include regenerative thermal oxidizers and combustion units.

Total hazardous air pollutant emissions means, for purposes of this subpart, the sum of the emissions of the following six compounds: acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde.

Tube dryer means a single-stage or multi-stage dryer operated at elevated temperature and used to reduce the moisture of wood fibers or particles as they are conveyed (usually pneumatically) through the dryer. Resin may or may not be applied to the wood material before it enters the tube dryer. A tube dryer is a process unit.

Veneer means thin sheets of wood peeled or sliced from logs for use in the manufacture of wood products such as plywood, laminated veneer lumber, or other products.

Veneer redryer means a dryer heated by conventional means, such as direct wood-fired, direct-gas-fired, or steam heated, that is used to redry veneer that has been previously dried. Because the veneer dried in a veneer

redryer has been previously dried, the inlet moisture content of the veneer entering the redryer is less than 25 percent (by weight, dry basis). Batch units used to redry veneer (such as redry cookers) are not considered to be veneer redryers. A veneer redryer is a process unit.

Wet control device means any equipment that uses water as a means of collecting an air pollutant. Wet control devices include scrubbers, wet electrostatic precipitators, and electrified filter beds. Wet control devices do not include biofilters or other equipment that destroys or degrades HAP.

Wet forming means the process of making a slurry of water, fiber, and additives into a mat of fibers to be compressed into a fiberboard or hardboard product.

Wood I-joists means a structural wood beam with an I-shaped cross section formed by bonding (with resin) wood or laminated veneer lumber flanges onto a web cut from a panel such as plywood or oriented strandboard.

Wood products enclosure means a permanently installed containment that was designed to meet the following physical design criteria:

(1) Any natural draft opening shall be at least four equivalent opening diameters from each HAP-emitting point, except for where board enters and exits the enclosure, unless otherwise specified by the EPA Administrator.

(2) The total area of all natural draft openings shall not exceed 5 percent of the surface area of the enclosure's four walls, floor, and ceiling.

(3) The average facial velocity of air through all natural draft openings shall be at least 3,600 meters per hour (200 feet per minute). The direction of airflow through all natural draft openings shall be into the enclosure.

(4) All access doors and windows whose areas are not included in item 2 of this definition and are not included in the calculation of facial velocity in item 3 of this definition shall be closed during routine operation of the process.

(5) The enclosure is designed and maintained to capture all emissions for discharge through a control device.

Work practice requirement means any design,

equipment, work practice, or operational standard, or combination thereof, that is promulgated pursuant to section 112(h) of the CAA.

1-hour period means a 60-minute period.

Tables to Subpart DDD of Part 63

Table 1A to Subpart DDDD of Part 63. Production-Based Compliance Options

For the following process units...	You must meet the following production-based compliance option (total HAP[a] basis)...
(1) fiberboard mat dryer heated zones (at new affected sources only)	0.022 lb/MSF 1/2"
(2) green rotary dryers	0.058 lb/ODT
(3) hardboard ovens	0.022 lb/MSF 1/8"
(4) press predryers (at new affected sources only)	0.037 lb/MSF 1/2"
(5) pressurized refiners	0.039 lb/ODT
(6) primary tube dryers	0.26 lb/ODT
(7) reconstituted wood product board coolers (at new affected sources only)	0.014 lb/MSF 3/4"
(8) reconstituted wood product presses	0.30 lb/MSF 3/4"
(9) softwood veneer dryer heated zones	0.022 lb/MSF 3/8"
(10) rotary strand dryers	0.18 lb/ODT
(11) secondary tube dryers	0.010 lb/ODT

[a]Total HAP, as defined in §63.2292, includes acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde. lb/ODT = pounds per oven-dried ton; lb/MSF = pounds per thousand square feet with a specified thickness basis (inches). Section 63.2262(j) shows how to convert from one thickness basis to another.

Note: There is no production-based compliance option for conveyor strand dryers.

Table 1B to Subpart DDDD of Part 63. Add-on Control Systems Compliance Options

For each of the following process units...	You must comply with one of the following six compliance options by using an emissions control system...
Fiberboard mat dryer heated zones (at new affected sources only); green rotary dryers; hardboard ovens; press predryers (at new affected sources only); pressurized refiners; tube dryers; reconstituted wood product board coolers (at new affected sources only); reconstituted wood product presses; softwood veneer dryer heated zones; rotary strand dryers; conveyor strand dryer zone one (at existing affected sources); and conveyor strand dryer zones one and two (at new affected sources)	(1) reduce emissions of total HAP, measured as THC (as carbon)[a], by 90 percent; or (2) limit emissions of total HAP, measured as THC (as carbon)[a], to 20 ppmvd; or (3) reduce methanol emissions by 90 percent; or (4) limit methanol emissions to less than or equal to 1 ppmvd if uncontrolled methanol emissions entering the control device are greater than or equal to 10 ppmvd; or (5) reduce formaldehyde emissions by 90 percent; or (6) limit formaldehyde emissions to less than or equal to 1 ppmvd if uncontrolled formaldehyde emissions entering the control device are greater than or equal to 10 ppmvd.

[a]You may choose to subtract methane from THC as carbon measurements.

Table 2 to Subpart DDDD of Part 63. Operating Requirements

If you operate a(n) ...	you must...	or you must...
(1) thermal oxidizer	maintain the 3-hour block average firebox temperature above the minimum temperature established during the performance test	maintain the 3-hour block average THC concentration[a] in the thermal oxidizer exhaust below the maximum concentration established during the performance test.
(2) catalytic oxidizer	maintain the 3-hour block average catalytic oxidizer temperature above the minimum temperature established during the performance test; AND check the activity level of a representative sample of the catalyst at least every 12 months	maintain the 3-hour block average THC concentration[a] in the catalytic oxidizer exhaust below the maximum concentration established during the performance test.
(3) biofilter	maintain the 24-hour block biofilter bed temperature within the range established according to §63.2262(m)	maintain the 24-hour block average THC concentration[a] in the biofilter exhaust below the maximum concentration established during the performance test.
(4) control device other than a thermal oxidizer, catalytic oxidizer, or biofilter	petition the EPA Administrator for site-specific operating parameter(s) to be established during the performance test and maintain the average operating parameter(s) within the range(s) established during the performance test	maintain the 3-hour block average THC concentration[a] in the control device exhaust below the maximum concentration established during the performance test.

(5) process unit that meets a compliance option in table 1a of this subpart, or a process unit that generates debits in an emissions average without the use of a control device	maintain on a daily basis the process unit controlling operating parameter(s) within the ranges established during the performance test according to §63.2262(n)	maintain the 3-hour block average THC concentration[a] in the process unit exhaust below the maximum concentration established during the performance test.

[a]You may choose to subtract methane from THC measurements.

Table 3 to Subpart DDDD of Part 63. Work Practice Requirements

For the following process units at existing or new affected sources...	You must...
(1) dry rotary dryers	process furnish with a 24-hour block average inlet moisture content of less than or equal to 30 percent (by weight, dry basis); AND operate with a 24-hour block average inlet dryer temperature of less than or equal to 600°F.
(2) hardwood veneer dryers	process less than 30 volume percent softwood species on an annual basis.
(3) softwood veneer dryers	minimize fugitive emissions from the dryer doors through (proper maintenance procedures) and the green end of the dryers (though proper balancing of the heated zone exhausts).
(4) veneer redryers	process veneer that has been previously dried, such that the 24-hour block average inlet moisture content of the veneer is less than or equal to 25 percent (by weight, dry basis).
(5) group 1 miscellaneous coating operations	use non-HAP coatings as defined in §63.2292.

Table 4 to Subpart DDDD of Part 63. Requirements for Performance Tests

For...	You must...	Using...
(1) each process unit subject to a compliance option in Table 1A or 1B to this subpart or used in calculation of an emissions average under §63.2240(c)	select sampling port's location and the number of traverse ports	Method 1 or 1A of 40 CFR part 60, appendix A (as appropriate).
(2) each process unit subject to a compliance option in Table 1A or 1B to this subpart or used in calculation of an emissions average under §63.2240(c)	determine velocity and volumetric flow rate	Method 2 in addition to Method 2A, 2C, 2D, 2F, or 2G in appendix A to 40 CFR part 60 (as appropriate).
(3) each process unit subject to a compliance option in Table 1A or 1B to this subpart or used in calculation of an emissions average under §63.2240(c)	conduct gas molecular weight analysis	Method 3, 3A, or 3B in appendix A to 40 CFR part 60 (as appropriate).
(4) each process unit subject to a compliance option in Table 1A or 1B to this subpart or used in calculation of an emissions average under §63.2240(c)	measure moisture content of the stack gas	Method 4 in appendix A to 40 CFR part 60; OR Method 320 in appendix A to 40 CFR part 63; OR ASTM D6348-03 (IBR, see §63.14(b))
(5) each process unit subject to a compliance option in Table 1B to this subpart for which you choose to demonstrate compliance using a total HAP as THC compliance option	measure emissions of total HAP as THC	Method 25A in appendix A to 40 CFR part 60. You may measure emissions of methane using EPA Method 18 in appendix A to 40 CFR part 60 and subtract the methane emissions from the emissions of total HAP as THC.

(6) each process unit subject to a compliance option in Table 1A to this subpart; OR for each process unit used in calculation of an emissions average under §63.2240(c)	measure emissions of total HAP (as defined in §63.2292)	Method 320 in appendix A to 40 CFR part 63; OR the NCASI Method IM/CAN/WP-99.02 (IBR, see §63.14(f)); OR ASTM D6348-03 (IBR, see §63.14(b)) provided that percent R as determined in Annex A5 of ASTM D6348-03 is equal or greater than 70 percent and less than or equal to 130 percent.
(7) each process unit subject to a compliance option in Table 1B to this subpart for which you choose to demonstrate compliance using a methanol compliance option	measure emissions of methanol	Method 308 in appendix A to 40 CFR part 63; OR Method 320 in appendix A to 40 CFR part 63; OR the NCASI Method CI/WP-98.01 (IBR, see §63.14(f)); OR the NCASI Method IM/CAN/WP-99.02 (IBR, see §63.14(f)).
(8) each process unit subject to a compliance option in Table 1B to this subpart for which you choose to demonstrate compliance using a formaldehyde compliance option	measure emissions of formaldehyde	Method 316 in appendix A to 40 CFR part 63; OR Method 320 in appendix A to 40 CFR part 63; OR Method 0011 in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods” (EPA Publication No. SW-846) for formaldehyde; OR the NCASI Method CI/WP-98.01 (IBR, see §63.14(f)); OR the NCASI Method IM/CAN/WP-99.02 (IBR, see §63.14(f)).

(9) each reconstituted wood product press at a new or existing affected source or reconstituted wood product board cooler at a new affected source subject to a compliance option in Table 1B to this subpart or used in calculation of an emissions average under §63.2240(c)	meet the design specifications included in the definition of wood products enclosure in §63.2292 OR determine the percent capture efficiency of the enclosure directing emissions to an add-on control device	Methods 204 and 204A through 204F of 40 CFR part 51, appendix M, to determine capture efficiency (except for wood products enclosures as defined in §63.2292). Enclosures that meet the definition of wood products enclosure or that meet Method 204 requirements for a permanent total enclosure (PTE) are assumed to have a capture efficiency of 100 percent. Enclosures that do not meet either the PTE requirements or design criteria for a wood products enclosure must determine the capture efficiency by constructing a TTE according to the requirements of Method 204 and applying Methods 204A through 204F (as appropriate). As an alternative to Methods 204 and 204A through 204F, you may use the tracer gas method contained in appendix A to this subpart.
(10) each reconstituted wood product press at a new or existing affected source or reconstituted wood product board cooler at a new affected source subject to a compliance option in Table 1A to this subpart	determine the percent capture efficiency	a TTE and Methods 204 and 204A through 204F (as appropriate) of 40 CFR part 51, appendix M. As an alternative to installing a TTE and using Methods 204 and 204A through 204F, you may use the tracer gas method contained in appendix A to this subpart.
(11) each process unit subject to a compliance option in Tables 1A and 1B to this subpart or used in calculation of an emissions average under §63.2240(c)	establish the site-specific operating requirements (including the parameter limits or THC concentration limits) in Table 2 to this subpart	data from the parameter monitoring system or THC CEMS and the applicable performance test method(s).

Table 5 to Subpart DDDD of Part 63. Performance Testing and Initial Compliance Demonstrations for the Compliance Options and Operating Requirements

For each...	For the following compliance options and operating requirements ...	You have demonstrated initial compliance if...
(1) process unit listed in Table 1A to this subpart	meet the production-based compliance options listed in Table 1A to this subpart	the average total HAP emissions measured using the methods in Table 4 to this subpart over the 3-hour performance test are no greater than the compliance option in Table 1A to this subpart; AND you have a record of the operating requirement(s) listed in Table 2 to this subpart for the process unit over the performance test during which emissions did not exceed the compliance option value.
(2) process unit listed in Table 1B to this subpart	reduce emissions of total HAP, measured as THC, by 90 percent	total HAP emissions, measured using the methods in Table 4 to this subpart over the 3-hour performance test, are reduced by at least 90 percent, as calculated using the procedures in §63.2262; AND you have a record of the operating requirement(s) listed in Table 2 to this subpart for the process unit over the performance test during which emissions were reduced by at least 90 percent.
(3) process unit listed in Table 1B to this subpart	limit emissions of total HAP, measured as THC, to 20 ppmvd	the average total HAP emissions, measured using the methods in Table 4 to this subpart over the 3-hour performance test, do not exceed 20 ppmvd; AND you have a record of the operating requirement(s) listed in Table 2 to this subpart for the process unit over the performance test during which emissions did not exceed 20 ppmvd.

(4) process unit listed in Table 1B to this subpart	reduce methanol or formaldehyde emissions by 90 percent	the methanol or formaldehyde emissions measured using the methods in Table 4 to this subpart over the 3-hour performance test, are reduced by at least 90 percent, as calculated using the procedures in §63.2262; AND you have a record of the operating requirement(s) listed in Table 2 to this subpart for the process unit over the performance test during which emissions were reduced by at least 90 percent.
(5) process unit listed in Table 1B to this subpart	limit methanol or formaldehyde emissions to less than or equal to 1 ppmvd (if uncontrolled emissions are greater than or equal to 10 ppmvd)	the average methanol or formaldehyde emissions, measured using the methods in Table 4 to this subpart over the 3-hour performance test, do not exceed 1 ppmvd; AND you have a record of the operating requirement(s) listed in Table 2 to this subpart for the process unit over the performance test during which emissions did not exceed 1 ppmvd. If the process unit is a reconstituted wood product press or a reconstituted wood product board cooler, your capture device either meets the EPA Method 204 criteria for a PTE or achieves a capture efficiency of greater than or equal to 95 percent.
(6) reconstituted wood product press at a new or existing affected source, or reconstituted wood product board cooler at a new affected source	compliance options in Tables 1A and 1B to this subpart or the emissions averaging compliance option in §63.2240(c)	you submit the results of capture efficiency verification using the methods in Table 4 to this subpart with your Notification of Compliance Status.
(7) process unit listed in Table 1B to this subpart controlled by routing exhaust to a combustion unit	compliance options in Table 1B to this subpart or the emissions averaging compliance option in §63.2240(c)	you submit with your Notification of Compliance Status documentation showing that the process exhausts controlled enter into the flame zone of your combustion unit.

(8) process unit listed in Table 1B to this subpart using a wet control device as the sole means of reducing HAP emissions	compliance options in Table 1B to this subpart or the emissions averaging compliance option in §63.2240(c)	you submit with your Notification of Compliance Status your plan to address how organic HAP captured in the wastewater from the wet control device is contained or destroyed to minimize re-release to the atmosphere.

Table 6 to Subpart DDDD of Part 63. Initial Compliance Demonstrations for Work Practice Requirements

For each...	For the following work practice requirements...	You have demonstrated initial compliance if...
(1) dry rotary dryer	process furnish with an inlet moisture content less than or equal to 30 percent (by weight, dry basis) AND operate with an inlet dryer temperature of less than or equal to 600°F	you meet the work practice requirement AND you submit a signed statement with the Notification of Compliance Status that the dryer meets the criteria of a “dry rotary dryer” AND you have a record of the inlet moisture content and inlet dryer temperature (as required in §63.2263).
(2) hardwood veneer dryer	process less than 30 volume percent softwood species	you meet the work practice requirement AND you submit a signed statement with the Notification of Compliance Status that the dryer meets the criteria of a “hardwood veneer dryer” AND you have a record of the percentage of softwoods processed in the dryer (as required in §63.2264).
(3) softwood veneer dryer	minimize fugitive emissions from the dryer doors and the green end	you meet the work practice requirement AND you submit with the Notification of Compliance Status a copy of your plan for minimizing fugitive emissions from the veneer dryer heated zones (as required in §63.2265).
(4) veneer redryers	process veneer with an inlet moisture content of less than or equal to 25 percent (by weight, dry basis)	you meet the work practice requirement AND you submit a signed statement with the Notification of Compliance Status that the dryer operates only as a redryer AND you have a record of the veneer inlet moisture content of the veneer processed in the redryer (as required in §63.2266).

Table 6 to Subpart DDDD of Part 63. Initial Compliance Demonstrations for Work Practice Requirements

For each...	For the following work practice requirements...	You have demonstrated initial compliance if...
(5) group 1 miscellaneous coating operations	use non-HAP coatings as defined in §63.2292	you meet the work practice requirement AND you submit a signed statement with the Notification of Compliance Status that you are using non-HAP coatings AND you have a record showing that you are using non-HAP coatings.

Table 7 to Subpart DDDD of Part 63. Continuous Compliance With the Compliance Options and Operating Requirements

For...	For the following compliance options and operating requirements...	You must demonstrate continuous compliance by...
(1) each process unit listed in Table 1B to this subpart or used in calculation of an emissions average under §63.2240(c)	compliance options in Table 1B to this subpart or the emissions averaging compliance option in §63.2240(c) and the operating requirements in Table 2 to this subpart based on monitoring of operating parameters	collecting and recording the operating parameter monitoring system data listed in Table 2 to this subpart for the process unit according to §63.2269(a) through (b) and §63.2270; AND reducing the operating parameter monitoring system data to the specified averages in units of the applicable requirement according to calculations in §63.2270; AND maintaining the average operating parameter at or above the minimum, at or below the maximum, or within the range (whichever applies) established according to §63.2262.
(2) each process unit listed in Tables 1A and 1B to this subpart or used in calculation of an emissions average under §63.2240(c)	compliance options in Tables 1A and 1B to this subpart or the emissions averaging compliance option in §63.2240(c) and the operating requirements in Table 2 of this subpart based on THC CEMS data	collecting and recording the THC monitoring data listed in Table 2 to this subpart for the process unit according to §63.2269(d); AND reducing the CEMS data to 3-hour block averages according to calculations in §63.2269(d); AND maintaining the 3-hour block average THC concentration in the exhaust gases less than or equal to the THC concentration established according to §63.2262.

Table 7 to Subpart DDDD of Part 63. Continuous Compliance With the Compliance Options and Operating Requirements

(3) each process unit using a biofilter	compliance options in Table 1B to this subpart or the emissions averaging compliance option in §63.2240(c)	conducting a repeat performance test using the applicable method(s) specified in Table 4 to this subpart within 2 years following the previous performance test and within 180 days after each replacement of any portion of the biofilter bed media with a different type of media or each replacement of more than 50 percent (by volume) of the biofilter bed media with the same type of media.
(4) each process unit using a catalytic oxidizer	compliance options in Table 1B to this subpart or the emissions averaging compliance option in §63.2240(c)	checking the activity level of a representative sample of the catalyst at least every 12 months and taking any necessary corrective action to ensure that the catalyst is performing within its design range.
(5) each process unit listed in Table 1A to this subpart, or each process unit without a control device used in calculation of an emissions averaging debit under §63.2240(c)	compliance options in Table 1A to this subpart or the emissions averaging compliance option in §63.2240(c) and the operating requirements in Table 2 to this subpart based on monitoring of process unit controlling operating parameters	collecting and recording on a daily basis process unit controlling operating parameter data; AND maintaining the operating parameter at or above the minimum, at or below the maximum, or within the range (whichever applies) established according to §63.2262.
(6) process unit listed in Table 1B to this subpart using a wet control device as the sole means of reducing HAP emissions	compliance options in Table 1B to this subpart or the emissions averaging compliance option in §63.2240(c)	implementing your plan to address how organic HAP captured in the wastewater from the wet control device is contained or destroyed to minimize re-release to the atmosphere.

Table 8 to Subpart DDDD of Part 63. Continuous Compliance With the Work Practice Requirements

For...	For the following work practice requirements...	You must demonstrate continuous compliance by...
(1) dry rotary dryer	process furnish with an inlet moisture content less than or equal to 30 percent (by weight, dry basis) AND operate with an inlet dryer temperature of less than or equal to 600°F	maintaining the 24-hour block average inlet furnish moisture content at less than or equal to 30 percent (by weight, dry basis) AND maintaining the 24-hour block average inlet dryer temperature at less than or equal to 600°F; AND keeping records of the inlet furnish moisture content and inlet dryer temperature.
(2) hardwood veneer dryer	process less than 30 volume percent softwood species	maintaining the volume percent softwood species processed below 30 percent AND keeping records of the volume percent softwood species processed.
(3) softwood veneer dryer	minimize fugitive emissions from the dryer doors and the green end	following (and documenting that you are following) your plan for minimizing fugitive emissions.
(4) veneer redryers	process veneer with an inlet moisture content of less than or equal to 25 percent (by weight, dry basis)	maintaining the 24-hour block average inlet moisture content of the veneer processed at or below 25 percent AND keeping records of the inlet moisture content of the veneer processed.
(5) group 1 miscellaneous coating operations	use non-HAP coatings as defined in §63.2292	continuing to use non-HAP coatings AND keeping records showing that you are using non-HAP coatings.

Table 9 to Subpart DDDD of Part 63. Requirements for Reports

You must submit a(n)...	The report must contain...	You must submit the report...
(1) compliance report	the information in §63.2281(c) through (g).	semiannually according to the requirements in §63.2281(b).
(2) immediate startup, shutdown, and malfunction report if you had a startup, shutdown, or malfunction during the reporting period that is not consistent with your SSMP	(i) actions taken for the event.	by fax or telephone within 2 working days after starting actions inconsistent with the plan.
	(ii) the information in §63.10(d)(5)(ii).	by letter within 7 working days after the end of the event unless you have made alternative arrangements with the permitting authority.

Table 10 to Subpart DDDD of Part 63. Applicability of General Provisions to Subpart DDDD

Citation	Subject	Brief Description	Applies to Subpart DDDD
§63.1	Applicability	Initial applicability determination; applicability after standard established; permit requirements; extensions, notifications	Yes
§63.2	Definitions	Definitions for part 63 standards	Yes
§63.3	Units and Abbreviations	Units and abbreviations for part 63 standards	Yes
§63.4	Prohibited Activities	Prohibited activities; compliance date; circumvention, fragmentation	Yes
§63.5	Construction/ Reconstruction	Applicability; applications; approvals	Yes
§63.6(a)	Applicability	GP apply unless compliance extension; GP apply to area sources that become major	Yes
§63.6(b)(1)-(4)	Compliance Dates for New and Reconstructed Sources	Standards apply at effective date; 3 years after effective date; upon startup; 10 years after construction or reconstruction commences for section 112(f)	Yes
§63.6(b)(5)	Notification	Must notify if commenced construction or reconstruction after proposal	Yes
§63.6(b)(6)	[Reserved]		
§63.6(b)(7)	Compliance Dates for New and Reconstructed Area Sources that Become Major	Area sources that become major must comply with major source standards immediately upon becoming major, regardless of whether required to comply when they were an area source	Yes

§63.6(c)(1)-(2)	Compliance Dates for Existing Sources	Comply according to date in subpart, which must be no later than 3 years after effective date; for section 112(f) standards, comply within 90 days of effective date unless compliance extension	Yes
§63.6(c)(3)-(4)	[Reserved]		
§63.6(c)(5)	Compliance Dates for Existing Area Sources that Become Major	Area sources that become major must comply with major source standards by date indicated in subpart or by equivalent time period (e.g., 3 years)	Yes
§63.6(d)	[Reserved]		
§63.6(e)(1)-(2)	Operation & Maintenance	Operate to minimize emissions at all times; correct malfunctions as soon as practicable; operation and maintenance requirements independently enforceable; information Administrator will use to determine if operation and maintenance requirements were met	Yes
§63.6(e)(3)	Startup, Shutdown, and Malfunction Plan (SSMP)	Requirement for SSM and SSMP; content of SSMP	Yes
§63.6(f)(1)	Compliance Except During SSM	You must comply with emission standards at all times except during SSM	Yes
§63.6(f)(2)-(3)	Methods for Determining Compliance	Compliance based on performance test, operation and maintenance plans, records, inspection	Yes
§63.6(g)(1)-(3)	Alternative Standard	Procedures for getting an alternative standard	Yes
§63.6(h)(1)-(9)	Opacity/Visible Emission (VE) Standards	Requirements for opacity and visible emission standards	NA
§63.6(i)(1)-(14)	Compliance Extension	Procedures and criteria for Administrator to grant compliance extension	Yes

§63.6(i)(15)	[Reserved]		
§63.6(i)(16)	Compliance Extension	Compliance extension and Administrator’s authority	Yes
§63.6(j)	Presidential Compliance Exemption	President may exempt source category from requirement to comply with rule	Yes
§63.7(a)(1)-(2)	Performance Test Dates	Dates for conducting initial performance testing and other compliance demonstrations; must conduct 180 days after first subject to rule	Yes
§63.7(a)(3)	Section 114 Authority	Administrator may require a performance test under CAA section 114 at any time	Yes
§63.7(b)(1)	Notification of Performance Test	Must notify Administrator 60 days before the test	Yes
§63.7(b)(2)	Notification of Rescheduling	If have to reschedule performance test, must notify Administrator as soon as practicable	Yes
§63.7(c)	Quality Assurance/ Test Plan	Requirement to submit site-specific test plan 60 days before the test or on date Administrator agrees with; test plan approval procedures; performance audit requirements; internal and external QA procedures for testing	Yes
§63.7(d)	Testing Facilities	Requirements for testing facilities	Yes
§63.7(e)(1)	Conditions for Conducting Performance Tests	Performance tests must be conducted under representative conditions; cannot conduct performance tests during SSM; not a violation to exceed standard during SSM	Yes
§63.7(e)(2)	Conditions for Conducting Performance Tests	Must conduct according to rule and EPA test methods unless Administrator approves alternative	Yes

§63.7(e)(3)	Test Run Duration	Must have three test runs for at least the time specified in the relevant standard; compliance is based on arithmetic mean of three runs; specifies conditions when data from an additional test run can be used	Yes
§63.7(f)	Alternative Test Method	Procedures by which Administrator can grant approval to use an alternative test method	Yes
§63.7(g)	Performance Test Data Analysis	Must include raw data in performance test report; must submit performance test data 60 days after end of test with the notification of compliance status; keep data for 5 years	Yes
§63.7(h)	Waiver of Tests	Procedures for Administrator to waive performance test	Yes
§63.8(a)(1)	Applicability of Monitoring Requirements	Subject to all monitoring requirements in standard	Yes
§63.8(a)(2)	Performance Specifications	Performance specifications in appendix B of part 60 apply	Yes
§63.8(a)(3)	[Reserved]		
§63.8(a)(4)	Monitoring with Flares	Requirements for flares in §63.11 apply.	NA
§63.8(b)(1)	Monitoring	Must conduct monitoring according to standard unless Administrator approves alternative	Yes

§63.8(b)(2)-(3)	Multiple Effluents and Multiple Monitoring Systems	Specific requirements for installing monitoring systems; must install on each effluent before it is combined and before it is released to the atmosphere unless Administrator approves otherwise; if more than one monitoring system on an emission point, must report all monitoring system results, unless one monitoring system is a backup	Yes
§63.8(c)(1)	Monitoring System Operation and Maintenance	Maintain monitoring system in a manner consistent with good air pollution control practices	Yes
§63.8(c)(1)(i)	Operation and Maintenance of CMS	Must maintain and operate CMS in accordance with §63.6(e)(1)	Yes
§63.8(c)(1)(ii)	Spare Parts for CMS	Must maintain spare parts for routine CMS repairs	Yes
§63.8(c)(1)(iii)	SSMP for CMS	Must develop and implement SSMP for CMS	Yes
§63.8(c)(2)-(3)	Monitoring System Installation	Must install to get representative emission of parameter measurements; must verify operational status before or at performance test	Yes
§63.8(c)(4)	Continuous Monitoring System (CMS) Requirements	CMS must be operating except during breakdown, out-of control, repair, maintenance, and high-level calibration drifts; COMS must have a minimum of one cycle of sampling and analysis for each successive 10-second period and one cycle of data recording for each successive 6-minute period; CEMS must have a minimum of one cycle of operation for each successive 15-minute period	Yes

§63.8(c)(5)	Continuous Opacity Monitoring System (COMS) Minimum Procedures	COMS minimum procedures	NA
§63.8(c)(6)-(8)	CMS Requirements	Zero and high-level calibration check requirements; out-of-control periods	Yes
§63.8(d)	CMS Quality Control	Requirements for CMS quality control, including calibration, etc.; must keep quality control plan on record for 5 years. Keep old versions for 5 years after revisions	Yes
§63.8(e)	CMS Performance Evaluation	Notification, performance evaluation test plan, reports	Yes
§63.8(f)(1)-(5)	Alternative Monitoring Method	Procedures for Administrator to approve alternative monitoring	Yes
§63.8(f)(6)	Alternative to Relative Accuracy Test	Procedures for Administrator to approve alternative relative accuracy tests for CEMS	Yes
§63.8(g)	Data Reduction	COMS 6-minute averages calculated over at least 36 evenly spaced data points; CEMS 1 hour averages computed over at least 4 equally spaced data points; data that can't be used in average; rounding of data	Yes
§63.9(a)	Notification Requirements	Applicability and State delegation	Yes
§63.9(b)(1)-(2)	Initial Notifications	Submit notification 120 days after effective date; contents of notification	Yes
§63.9(b)(3)	[Reserved]		

§63.9(b)(4)-(5)	Initial Notifications	Submit notification 120 days after effective date; notification of intent to construct/reconstruct; notification of commencement of construct/reconstruct; notification of startup; contents of each	Yes
§63.9(c)	Request for Compliance Extension	Can request if cannot comply by date or if installed best available control technology/lowest achievable emission rate	Yes
§63.9(d)	Notification of Special Compliance Requirements for New Source	For sources that commence construction between proposal and promulgation and want to comply 3 years after effective date	Yes
§63.9(e)	Notification of Performance Test	Notify EPA Administrator 60 days prior	Yes
§63.9(f)	Notification of Visible Emissions/ Opacity Test	Notify EPA Administrator 30 days prior	No
§63.9(g)	Additional Notifications When Using CMS	Notification of performance evaluation; notification using COMS data; notification that exceeded criterion for relative accuracy	Yes
§63.9(h)(1)-(6)	Notification of Compliance Status	Contents; due 60 days after end of performance test or other compliance demonstration, except for opacity/VE, which are due 30 days after; when to submit to Federal vs. State authority	Yes
§63.9(i)	Adjustment of Submittal Deadlines	Procedures for Administrator to approve change in when notifications must be submitted	Yes
§63.9(j)	Change in Previous Information	Must submit within 15 days after the change	Yes

§63.10(a)	Recordkeeping/ Reporting	Applies to all, unless compliance extension; when to submit to Federal vs. State authority; procedures for owners of more than one source	Yes
§63.10(b)(1)	Recordkeeping/ Reporting	General Requirements; keep all records readily available; keep for 5 years	Yes
§63.10(b)(2)(i)-(iv)	Records Related to Startup, Shutdown, and Malfunction	Occurrence of each of operation (process equipment); occurrence of each malfunction of air pollution equipment; maintenance on air pollution control equipment; actions during startup, shutdown, and malfunction	Yes
§63.10(b)(2)(vi) and (x)-(xi)	CMS Records	Malfunctions, inoperative, out-of-control	Yes
§63.10(b)(2)(vii)-(ix)	Records	Measurements to demonstrate compliance with compliance options and operating requirements; performance test, performance evaluation, and visible emission observation results; measurements to determine conditions of performance tests and performance evaluations	Yes
§63.10(b)(2)(xii)	Records	Records when under waiver	Yes
§63.10(b)(2)(xiii)	Records	Records when using alternative to relative accuracy test	Yes
§63.10(b)(2)(xiv)	Records	All documentation supporting initial notification and notification of compliance status	Yes
§63.10(b)(3)	Records	Applicability determinations	Yes
§63.10(c)(1)-(6),(9)-(15)	Records	Additional records for CMS	Yes

§63.10(c)(7)-(8)	Records	Records of excess emissions and parameter monitoring exceedances for CMS	No
§63.10(d)(1)	General Reporting Requirements	Requirement to report	Yes
§63.10(d)(2)	Report of Performance Test Results	When to submit to Federal or State authority	Yes
§63.10(d)(3)	Reporting Opacity or VE Observations	What to report and when	NA
§63.10(d)(4)	Progress Reports	Must submit progress reports on schedule if under compliance extension	Yes
§63.10(d)(5)	Startup, Shutdown, and Malfunction Reports	Contents and submission	Yes
§63.10(e)(1)-(2)	Additional CMS Reports	Must report results for each CEM on a unit; written copy of performance evaluation; 3 copies of COMS performance evaluation	Yes
§63.10(e)(3)	Reports	Excess emission reports	No
§63.10(e)(4)	Reporting COMS data	Must submit COMS data with performance test data	NA
§63.10(f)	Waiver for Recordkeeping/Reporting	Procedures for EPA Administrator to waive	Yes
§63.11	Flares	Requirements for flares	NA
§63.12	Delegation	State authority to enforce standards	Yes
§63.13	Addresses	Addresses where reports, notifications, and requests are send	Yes
§63.14	Incorporation by Reference	Test methods incorporated by reference	Yes
§63.15	Availability of Information	Public and confidential information	Yes

Appendix A to Subpart DDDD of Part 63 – Alternative Procedure to Determine Capture Efficiency from Enclosures Around Hot Presses in the Plywood and Composite Wood Products Industry Using Sulfur Hexafluoride Tracer Gas

1.0 Scope and Application.

This procedure has been developed specifically for the rule for the plywood and composite wood products (PCWP) industry and is used to determine the capture efficiency of a partial hot press enclosure in that industry. This procedure is applicable for the determination of capture efficiency for enclosures around hot presses and is an alternative to the construction of temporary total enclosures (TTE). Sulfur hexafluoride (SF_6) is used as a tracer gas (other tracer gases may be used if approved by the EPA Administrator). This gas is not indigenous to the ambient atmosphere and is nonreactive.

This procedure uses infrared spectrometry (IR) as the analytical technique. When the infrared spectrometer used is a Fourier-Transform Infrared spectrometer (FTIR), an alternate instrument calibration procedure may be used; the alternate calibration procedure is the calibration transfer standard (CTS) procedure of EPA Method 320 (appendix A to 40 CFR part 63). Other analytical techniques which are capable of equivalent Method Performance (Section 13.0) also may be used. Specifically, gas chromatography with electron capture detection (GC/ECD) is an applicable technique for analysis of SF_6.

2.0 Summary of Method.

A constant mass flow rate of SF_6 tracer gas is released through manifolds at multiple locations within the enclosure to mimic the release of hazardous air pollutants during the press process. This test method requires a minimum of three SF_6 injection points (two at the press unloader and one at the press) and provides details about considerations for locating the injection points. A GC/ECD is used to measure the concentration of SF_6 at the inlet duct to the control device (outlet duct from enclosure). Simultaneously, EPA Method 2 (appendix A to 40 CFR part 60) is used to measure the flow rate at

the inlet duct to the control device. The concentration and flow rate measurements are used to calculate the mass emission rate of SF_6 at the control device inlet. Through calculation of the mass of SF_6 released through the manifolds and the mass of SF_6 measured at the inlet to the control device, the capture efficiency of the enclosure is calculated.

In addition, optional samples of the ambient air may be taken at locations around the perimeter of the enclosure to quantify the ambient concentration of SF_6 and to identify those areas of the enclosure that may be performing less efficiently; these samples would be taken using disposable syringes and would be analyzed using a GC/ECD.

Finally, in addition to the requirements specified in this procedure, the data quality objectives (DQO) or lower confidence limit (LCL) criteria specified in appendix A to 40 CFR part 63, subpart KK, Data Quality Objective and Lower Confidence Limit Approaches for Alternative Capture Efficiency Protocols and Test Methods, must also be satisfied. A minimum of three test runs are required for this procedure; however, additional test runs may be required based on the results of the DQO or LCL analysis.

3.0 Definitions.

3.1 *Capture efficiency (CE)*. The weight per unit time of SF_6 entering the control device divided by the weight per unit time of SF_6 released through manifolds at multiple locations within the enclosure.

3.2 *Control device (CD)*. The equipment used to reduce, by destruction or removal, press exhaust air pollutants prior to discharge to the ambient air.

3.3 *Control/destruction efficiency (DE)*. The volatile organic compound or HAP removal efficiency of the control device.

3.4 *Data Quality Objective (DQO) Approach*. A statistical procedure to determine the precision of the data from a test series and to qualify the data in the determination of capture efficiency for compliance

purposes. If the results of the DQO analysis of the initial three test runs do not satisfy the DQO criterion, the LCL approach can be used or additional test runs must be conducted. If additional test runs are conducted, then the DQO or LCL analysis is conducted using the data from both the initial test runs and all additional test runs.

3.5 *Lower Confidence Limit (LCL) Approach*. An alternative statistical procedure that can be used to qualify data in the determination of capture efficiency for compliance purposes. If the results of the LCL approach produce a CE that is too low for demonstrating compliance, then additional test runs must be conducted until the LCL or DQO is met. As with the DQO, data from all valid test runs must be used in the calculation.

3.6 *Minimum Measurement Level (MML)*. The minimum tracer gas concentration expected to be measured during the test series. This value is selected by the tester based on the capabilities of the IR spectrometer (or GC/ECD) and the other known or measured parameters of the hot press enclosure to be tested. The selected MML must be above the low-level calibration standard and preferably below the mid-level calibration standard.

3.7 *Method 204*. The U.S. EPA Method 204, “Criteria For and Verification of a Permanent or Temporary Total Enclosure” (40 CFR part 51, appendix M).

3.8 *Method 205*. The U.S. EPA Method 205, “Verification of Gas Dilution Systems for Field Instrument Calibrations” (40 CFR part 51, appendix M).

3.9 *Method 320*. The U.S. EPA Method 320, “Measurement of Vapor Phase Organic and Inorganic Emissions by Extractive Fourier Transform Infrared (FTIR) Spectroscopy” (40 CFR part 63, appendix A).

3.10 *Overall capture and control efficiency (CCE)*. The collection and control/destruction efficiency of both the PPE and CD combined. The CCE is calculated as the product of the CE and DE.

3.11 *Partial press enclosure (PPE)*. The physical barrier that “partially” encloses the press equipment,

captures a significant amount of the associated emissions, and transports those emissions to the CD.

3.12 *Test series*. A minimum of three test runs or, when more than three runs are conducted, all of the test runs conducted.

4.0 Interferences.

There are no known interferences.

5.0 Safety.

Sulfur hexafluoride is a colorless, odorless, nonflammable liquefied gas. It is stable and nonreactive and, because it is noncorrosive, most structural materials are compatible with it. The Occupational Safety and Health Administration Permissible Emission Limit-Time Weighted Average (PEL-TWA) and Threshold Limit Value-Time Weighted Average (TLV-TWA) concentrations are 1,000 parts per million. Sulfur hexafluoride is an asphyxiant. Exposure to an oxygen-deficient atmosphere (less than 19.5 percent oxygen) may cause dizziness, drowsiness, nausea, vomiting, excess salivation, diminished mental alertness, loss of consciousness, and death. Exposure to atmospheres containing less than 12 percent oxygen will bring about unconsciousness without warning and so quickly that the individuals cannot help themselves. Contact with liquid or cold vapor may cause frostbite. Avoid breathing sulfur hexafluoride gas. Self-contained breathing apparatus may be required by rescue workers. Sulfur hexafluoride is not listed as a carcinogen or a potential carcinogen.

6.0 Equipment and Supplies.

This method requires equipment and supplies for: (a) the injection of tracer gas into the enclosure, (b) the measurement of the tracer gas concentration in the exhaust gas entering the control device, and (c) the measurement of the volumetric flow rate of the exhaust gas entering the control device. In addition, the requisite equipment needed for EPA Methods 1 - 4 in appendix A to 40 CFR part 60 will be required. Equipment and supplies for optional ambient air sampling are discussed in Section 8.6.

6.1 Tracer Gas Injection.

6.1.1 Manifolds. This method requires the use of tracer gas supply cylinder(s) along with the appropriate flow control elements. Figure 1 shows a schematic drawing of the injection system showing potential locations for the tracer gas manifolds. Figure 2 shows a schematic drawing of the recommended configuration of the injection manifold. Three tracer gas discharge manifolds are required at a minimum.

6.1.2 Flow Control Meter. Flow control and measurement meter for measuring the quantity of tracer gas injected. A mass flow, volumetric flow, or critical orifice control meter can be used for this method. The meter must be accurate to within ± 5 percent at the flow rate used. This means that the flow meter must be calibrated against a primary standard for flow measurement at the appropriate flow rate.

6.2 Measurement of Tracer Gas Concentration.

6.2.1 Sampling Probes. Use Pyrex or stainless steel sampling probes of sufficient length to reach the traverse points calculated according to EPA Method 1 (appendix A to 40 CFR part 60).

6.2.2 Sampling Line. Use a heated Teflon sampling line to transport the sample to the analytical instrument.

6.2.3 Sampling Pump. Use a sampling pump capable of extracting sufficient sample from the duct and transporting to the analytical instrument.

6.2.4 Sample Conditioning System. Use a particulate filter sufficient to protect the sampling pump and analytical instrument. At the discretion of the tester and depending on the equipment used and the moisture content of the exhaust gas, it may be necessary to further condition the sample by removing moisture using a condenser.

6.2.5 Analytical Instrument. Use one of the following analytical instruments.

6.2.1.1 Spectrometer. Use an infrared spectrometer designed to measuring SF_6 tracer gas and capable of meeting or exceeding the specifications of this

procedure. An FTIR meeting the specifications of Method 320 in appendix A to 40 CFR part 63 may be used.

6.2.1.2 GC/ECD. Use a GC/ECD designed to measure SF_6 tracer gas and capable of meeting or exceeding the specifications of this procedure.

6.2.6 Recorder. At a minimum, use a recorder with linear strip chart. An automated data acquisition system (DAS) is recommended.

6.3 Exhaust Gas Flow Rate Measurement. Use equipment specified for EPA Methods 2, 3, and 4 in appendix A to 40 CFR part 60 for measuring flow rate of exhaust gas at the inlet to the control device.

7.0 Reagents and Standards.

7.1 Tracer Gas. Use SF_6 as the tracer gas. The manufacturer of the SF_6 tracer gas should provide a recommended shelf life for the tracer gas cylinder over which the concentration does not change more than ± 2 percent from the certified value. A gas mixture of SF_6 diluted with nitrogen should be used; based on experience and calculations, pure SF_6 gas is not necessary to conduct tracer gas testing. Select a concentration and flow rate that is appropriate for the analytical instrument's detection limit, the MML, and the exhaust gas flow rate from the enclosure (see section 8.1.1). You may use a tracer gas other than SF_6 with the prior approval of the EPA Administrator. If you use an approved tracer gas other than SF_6, all references to SF_6 in this protocol instead refer to the approved tracer gas.

7.2 Calibration Gases. The SF_6 calibration gases required will be dependent on the selected MML and the appropriate span selected for the test. Commercial cylinder gases certified by the manufacturer to be accurate to within 1 percent of the certified label value are preferable, although cylinder gases certified by the manufacturer to 2 percent accuracy are allowed. Additionally, the manufacturer of the SF_6 calibration gases should provide a recommended shelf life for each calibration gas cylinder over which the concentration does not change more than ± 2 percent from the certified value. Another option allowed by this method is for the tester to obtain high concentration certified cylinder

gases and then use a dilution system meeting the requirements of EPA Method 205, 40 CFR part 51, appendix M, to make multi-level calibration gas standards. Low-level, mid-level, and high-level calibration gases will be required. The MML must be above the low-level standard, the high-level standard must be no more than four times the low-level standard, and the mid-level standard must be approximately halfway between the high- and low-level standards. See section 12.1 for an example calculation of this procedure.

Note: If using an FTIR as the analytical instrument, the tester has the option of following the CTS procedures of Method 320 in appendix A to 40 CFR part 63; the calibration standards (and procedures) specified in Method 320 may be used in lieu of the calibration standards and procedures in this protocol.

7.2.1 Zero Gas. High purity nitrogen.

7.2.2 Low-Level Calibration Gas. An SF_6 calibration gas in nitrogen with a concentration equivalent to 20 to 30 percent of the applicable span value.

7.2.3 Mid-Level Calibration Gas. An SF_6 calibration gas in nitrogen with a concentration equivalent to 45 to 55 percent of the applicable span value.

7.2.4 High-Level Calibration Gas. An SF_6 calibration gas in nitrogen with a concentration equivalent to 80 to 90 percent of the applicable span value.

8.0 Sample Collection, Preservation, Storage, and Transport.

8.1 Test Design.

8.1.1 Determination of Minimum Tracer Gas Flow Rate.

8.1.1.1 Determine (via design calculations or measurements) the approximate flow rate of the exhaust gas through the enclosure, actual cubic feet per minute (acfm).

8.1.1.2 Calculate the minimum tracer gas injection rate necessary to assure a detectable SF_6 concentration at the exhaust gas measurement point (see section 12.1 for

calculation).

8.1.1.3 Select a flow meter for the injection system with an operating range appropriate for the injection rate selected.

8.1.2 Determination of the Approximate Time to Reach Equilibrium.

8.1.2.1 Determine the volume of the enclosure.

8.1.2.2 Calculate the air changes per minute of the enclosure by dividing the approximate exhaust flow rate (8.1.1.1 above) by the enclosed volume (8.1.2.1 above).

8.1.2.3 Calculate the time at which the tracer concentration in the enclosure will achieve approximate equilibrium. Divide 3 by the air changes per minute (8.1.2.2 above) to establish this time. This is the approximate length of time for the system to come to equilibrium. Concentration equilibrium occurs when the tracer concentration in the enclosure stops changing as a function of time for a constant tracer release rate. Because the press is continuously cycling, equilibrium may be exhibited by a repeating, but stable, cyclic pattern rather than a single constant concentration value. Assure sufficient tracer gas is available to allow the system to come to equilibrium, and to sample for a minimum of 20 minutes and repeat the procedure for a minimum of three test runs. Additional test runs may be required based on the results of the DQO and LCL analyses described in 40 CFR part 63, subpart KK, appendix A.

8.1.3 Location of Injection Points. This method requires a minimum of three tracer gas injection points. The injection points should be located within leak prone, volatile organic compound/hazardous air pollutant (VOC/HAP) producing areas around the press, or horizontally within 12 inches of the defined equipment. One potential configuration of the injection points is depicted in Figure 1. The effect of wind, exfiltration through the building envelope, and air flowing through open building doors should be considered when locating tracer gas injection points within the enclosure. The injection points should also be located at a vertical elevation equal to the VOC/HAP generating zones. The injection points should not be located beneath

obstructions that would prevent a natural dispersion of the gas. Document the selected injection points in a drawing(s).

8.1.4 Location of Flow Measurement and Tracer Sampling. Accurate CD inlet gas flow rate measurements are critical to the success of this procedure. Select a measurement location meeting the criteria of EPA Method 1 (40 CFR part 60, appendix A), Sampling and Velocity Traverses for Stationary Sources. Also, when selecting the measurement location, consider whether stratification of the tracer gas is likely at the location (e.g., do not select a location immediately after a point of air in-leakage to the duct).

8.2 Tracer Gas Release. Release the tracer gas at a calculated flow rate (see section 12.1 for calculation) through a minimum of three injection manifolds located as described above in 8.1.3. The tracer gas delivery lines must be routed into the enclosure and attached to the manifolds without violating the integrity of the enclosure.

8.3 Pretest Measurements.

8.3.1 Location of Sampling Point(s). If stratification is not suspected at the measurement location, select a single sample point located at the centroid of the CD inlet duct or at a point no closer to the CD inlet duct walls than 1 meter. If stratification is suspected, establish a “measurement line” that passes through the centroidal area and in the direction of any expected stratification. Locate three traverse points at 16.7, 50.0 and 83.3 percent of the measurement line and sample from each of these three points during each run, or follow the procedure in section 8.3.2 to verify whether stratification does or does not exist.

8.3.2 Stratification Verification. The presence or absence of stratification can be verified by using the following procedure. While the facility is operating normally, initiate tracer gas release into the enclosure. For rectangular ducts, locate at least nine sample points in the cross section such that the sample points are the centroids of similarly-shaped, equal area divisions of the cross section. Measure the tracer gas concentration

at each point. Calculate the mean value for all sample points. For circular ducts, conduct a 12-point traverse (i.e., six points on each of the two perpendicular diameters) locating the sample points as described in 40 CFR part 60, appendix A, Method 1. Perform the measurements and calculations as described above. Determine if the mean pollutant concentration is more than 10 percent different from any single point. If so, the cross section is considered to be stratified, and the tester may not use a single sample point location, but must use the three traverse points at 16.7, 50.0, and 83.3 percent of the entire measurement line. Other traverse points may be selected, provided that they can be shown to the satisfaction of the Administrator to provide a representative sample over the stack or duct cross section.

8.4 CD Inlet Gas Flow Rate Measurements. The procedures of EPA Methods 1-4 (40 CFR part 60, appendix A) are used to determine the CD inlet gas flow rate. Molecular weight (Method 3) and moisture (Method 4) determinations are only required once for each test series. However, if the test series is not completed within 24 hours, then the molecular weight and moisture measurements should be repeated daily. As a minimum, velocity measurements are conducted according to the procedures of Methods 1 and 2 before and after each test run, as close to the start and end of the run as practicable. A velocity measurement between two runs satisfies both the criterion of “after” the run just completed and “before” the run to be initiated. Accurate exhaust gas flow rate measurements are critical to the success of this procedure. If significant temporal variations of flow rate are anticipated during the test run under normal process operating conditions, take appropriate steps to accurately measure the flow rate during the test. Examples of steps that might be taken include: 1) conducting additional velocity traverses during the test run; or 2) continuously monitoring a single point of average velocity during the run and using these data, in conjunction with the pre- and post-test traverses, to calculate an average velocity for the test run.

8.5 Tracer Gas Measurement Procedure.

8.5.1 Calibration Error Test. Immediately prior to the emission test (within 2 hours of the start of the test), introduce zero gas and high-level calibration gas at the calibration valve assembly. Zero and calibrate the analyzer according to the manufacturer's procedures using, respectively, nitrogen and the calibration gases. Calculate the predicted response for the low-level and mid-level gases based on a linear response line between the zero and high-level response. Then introduce the low-level and mid-level calibration gases successively to the measurement system. Record the analyzer responses for the low-level and mid-level calibration gases and determine the differences between the measurement system responses and the predicted responses using the equation in section 12.3. These differences must be less than 5 percent of the respective calibration gas value. If not, the measurement system must be replaced or repaired prior to testing. No adjustments to the measurement system shall be conducted after the calibration and before the drift determination (section 8.5.4). If adjustments are necessary before the completion of the test series, perform the drift checks prior to the required adjustments and repeat the calibration following the adjustments. If multiple electronic ranges are to be used, each additional range must be checked with a mid-level calibration gas to verify the multiplication factor.

Note: If using an FTIR for the analytical instrument, you may choose to follow the pretest preparation, evaluation, and calibration procedures of Method 320 (section 8.0) (40 CFR part 63, appendix A) in lieu of the above procedure.

8.5.2 Response Time Test. Conduct this test once prior to each test series. Introduce zero gas into the measurement system at the calibration valve assembly. When the system output has stabilized, switch quickly to the high-level calibration gas. Record the time from the concentration change to the measurement system response equivalent to 95 percent of the step change. Repeat the test three times and average the results.

8.5.3 SF_6 Measurement. Sampling of the enclosure exhaust gas at the inlet to the CD should begin at the onset of tracer gas release. If necessary, adjust the tracer gas injection rate such that the measured tracer

gas concentration at the CD inlet is within the spectrometer's calibration range (i.e., between the MML and the span value). Once the tracer gas concentration reaches equilibrium, the SF_6 concentration should be measured using the infrared spectrometer continuously for at least 20 minutes per run. Continuously record (i.e., record at least once per minute) the concentration. Conduct at least three test runs. On the recording chart, in the data acquisition system, or in a log book, make a note of periods of process interruption or cyclic operation such as the cycles of the hot press operation. Table 1 to this appendix summarizes the physical measurements required for the enclosure testing.

Note: If a GC/ECD is used as the analytical instrument, a continuous record (at least once per minute) likely will not be possible; make a minimum of five injections during each test run. Also, the minimum test run duration criterion of 20 minutes applies.

8.5.4 Drift Determination. Immediately following the completion of the test run, reintroduce the zero and mid-level calibration gases, one at a time, to the measurement system at the calibration valve assembly. (Make no adjustments to the measurement system until both the zero and calibration drift checks are made.) Record the analyzer responses for the zero and mid-level calibration gases and determine the difference between the instrument responses for each gas prior to and after the emission test run using the equation in section 12.4. If the drift values exceed the specified limits (section 13), invalidate the test results preceding the check and repeat the test following corrections to the measurement system. Alternatively, recalibrate the test measurement system as in section 8.5.1 and report the results using both sets of calibration data (i.e., data determined prior to the test period and data determined following the test period). Note: If using an FTIR for the analytical instrument, you may choose to follow the post-test calibration procedures of Method 320 in appendix A to 40 CFR part 63 (section 8.11.2) in lieu of the above procedures.

8.6 Ambient Air Sampling (Optional). Sampling the ambient air surrounding the enclosure is optional. However, taking these samples during the capture

efficiency testing will identify those areas of the enclosure that may be performing less efficiently.

8.6.1 Location of Ambient Samples Outside the Enclosure (Optional). In selecting the sampling locations for collecting samples of the ambient air surrounding the enclosure, consider potential leak points, the direction of the release, and laminar flow characteristics in the area surrounding the enclosure. Samples should be collected from all sides of the enclosure, downstream in the prevailing room air flow, and in the operating personnel occupancy areas.

8.6.2 Collection of Ambient Samples (Optional). During the tracer gas release, collect ambient samples from the area surrounding the enclosure perimeter at predetermined location using disposable syringes or some other type of containers that are non-absorbent, inert, and that have low permeability (i.e., polyvinyl fluoride film or polyester film sample bags or polyethylene, polypropylene, nylon or glass bottles). The use of disposable syringes allows samples to be injected directly into a gas chromatograph. Concentration measurements taken around the perimeter of the enclosure provide evidence of capture performance and will assist in the identification of those areas of the enclosure that are performing less efficiently.

8.6.3 Analysis and Storage of Ambient Samples (Optional). Analyze the ambient samples using an analytical instrument calibrated and operated according to the procedures in this appendix or ASTM E 260 and ASTM E 697. Samples may be analyzed immediately after a sample is taken, or they may be stored for future analysis. Experience has shown no degradation of concentration in polypropylene syringes when stored for several months as long as the needle or syringe is plugged. Polypropylene syringes should be discarded after one use to eliminate the possibility of cross contamination of samples.

9.0 Quality Control.

9.1 Sampling, System Leak Check. A sampling system leak check should be conducted prior to and after each test run to ensure the integrity of the sampling system.

9.2 Zero and Calibration Drift Tests.

Section	Quality Control Measure	Effect
8.5.4	Zero and calibration drift tests.	Ensures that bias introduced by drift in the measurement system output during the run is no greater than 3 percent of span.

10.0 Calibration and Standardization.

10.1 Control Device Inlet Air Flow Rate Measurement Equipment. Follow the equipment calibration requirements specified in Methods 2, 3, and 4 (appendix A to 40 CFR part 60) for measuring the velocity, molecular weight, and moisture of the control device inlet air.

10.2 Tracer Gas Injection Rate. A dry gas volume flow meter, mass flow meter, or orifice can be used to measure the tracer gas injection flow rate. The selected flow measurement device must have an accuracy of greater than ± 5 percent at the field operating range. Prior to the test, verify the calibration of the selected flow measurement device using either a wet test meter, spirometer, or liquid displacement meter as the calibration device. Select a minimum of two flow rates to bracket the expected field operating range of the flow meter. Conduct three calibration runs at each of the two selected flow rates. For each run, note the exact quantity of gas as determined by the calibration standard and the gas volume indicated by the flow meter. For each flow rate, calculate the average percent difference of the indicated flow compared to the calibration standard.

10.3 Spectrometer. Follow the calibration requirements specified by the equipment manufacturer for infrared spectrometer measurements and conduct the pretest calibration error test specified in section 8.5.1. Note: if using an FTIR analytical instrument see Method 320, section 10 (appendix A to 40 CFR part 63).

10.4 Gas Chromatograph. Follow the pre-test calibration requirements specified in section 8.5.1.

10.4 Gas Chromatograph for Ambient Sampling (Optional). For the optional ambient sampling, follow the calibration requirements specified in section 8.5.1 or ASTM E 260 and E 697 and by the equipment manufacturer for gas chromatograph measurements.

11.0 Analytical Procedures.

The sample collection and analysis are concurrent for this method (see section 8.0).

12.0 Calculations and Data Analysis.

12.1 Estimate MML and Span. The MML is the minimum measurement level. The selection of this level is at the discretion of the tester. However, the MML must be higher than the low-level calibration standard, and the tester must be able to measure at this level with a precision of #10 percent. As an example, select the MML as 10 times the instrument's published detection limit. The detection limit of one instrument is 0.01 parts per million by volume (ppmv). Therefore, the MML would be 0.10 ppmv. Select the low-level calibration standard as 0.08 ppmv. The high-level standard would be four times the low-level standard or 0.32 ppmv. A reasonable mid-level standard would then be 0.20 ppmv (halfway between the low-level standard and the high-level standard). Finally, the span value would be approximately 0.40 ppmv (the high-level value is 80 percent of the span). In this example, the following MML, calibration standards, and span values would apply:

MML = 0.10 ppmv
Low-level standard = 0.08 ppmv
Mid-level standard = 0.20 ppmv
High-level standard = 0.32 ppmv
Span value = 0.40 ppmv

12.2 Estimate Tracer Gas Injection Rate for the Given Span. To estimate the minimum and maximum tracer gas injection rate, assume a worst case capture efficiency of 80 percent, and calculate the tracer gas flow rate based on known or measured parameters. To estimate the minimum tracer gas injection rate, assume

that the MML concentration (10 times the IR detection limit in this example) is desired at the measurement location. The following equation can be used to estimate the minimum tracer gas injection rate:

$$((Q_{T\text{-}MIN} \times 0.8)/Q_E) \times (C_T \div 100) \times 10^6 = MML$$

$$Q_{T\text{-}MIN} = 1.25 \times MML \times (Q_E/C_T) \times 10^{-4}$$

Where:

$Q_{T\text{-}MIN}$ = minimum volumetric flow rate of tracer gas injected, standard cubic feet per minute (scfm);

Q_E = volumetric flow rate of exhaust gas, scfm;

C_T = Tracer gas (SF_6) concentration in gas blend, percent by volume;

MML = minimum measured level, ppmv = 10 x IR_{DL} (for this example);

IR_{DL} = IR detection limit, ppmv.

Standard conditions: 20°C, 760 millometers of mercury (mm Hg).

To estimate the maximum tracer gas injection rate, assume that the span value is desired at the measurement location. The following equation can be used to estimate the maximum tracer gas injection rate:

$$((Q_{T\text{-}MAX} \times 0.8)/Q_E) \times (C_T \div 100) \times 10^6 = \text{span value}$$

$$Q_{T\text{-}MAX} = 1.25 \times \text{span value} \times (Q_E/C_T) \times 10^{-4}$$

Where:

$Q_{T\text{-}MAX}$ = maximum volumetric flow rate of tracer gas injected, scfm;

Span value = instrument span value, ppmv.

The following example illustrates this calculation procedure:

Find the range of volumetric flow rate of tracer gas to be injected when the following parameters are known:

Q_E = 60,000 scfm (typical exhaust gas flow rate from an enclosure);

C_T = 2 percent SF_6 in nitrogen;

IR_{DL} = 0.01 ppmv (per manufacturer’s specifications);

MML = 10 x IR_{DL} = 0.10 ppmv;
Span value = 0.40 ppmv;
Q_T = ?

Minimum tracer gas volumetric flow rate:

$$Q_{T\text{-}MIN} = 1.25 \times MML \times (Q_E/C_T) \times 10^{-4}$$

$$Q_{T\text{-}MIN} = 1.25 \times 0.10 \times (60{,}000/2) \times 10^{-4} = 0.375 \text{ scfm}$$

Maximum tracer gas volumetric flow rate:

$$Q_{T\text{-}MAX} = 1.25 \times \text{span value} \times (Q_E/C_T) \times 10^{-4}$$

$$Q_{T\text{-}MAX} = 1.25 \times 0.40 \times (60{,}000/2) \times 10^{-4} = 1.5 \text{ scfm}$$

In this example, the estimated total volumetric flow rate of the two percent SF_6 tracer gas injected through the manifolds in the enclosure lies between 0.375 and 1.5 scfm.

12.3 Calibration Error. Calculate the calibration error for the low-level and mid-level calibration gases using the following equation:

$$Err = |C_{std} - C_{meas}| \div C_{std} \times 100$$

Where:

Err = calibration error, percent;
C_{std} = low-level or mid-level calibration gas value, ppmv;
C_{meas} = measured response to low-level or mid-level concentration gas, ppmv.

12.4 Calibration Drift. Calculate the calibration drift for the zero and low-level calibration gases using the following equation:

$$D = |C_{initial} - C_{final}| \div C_{span} \times 100$$

Where:

D = calibration drift, percent;
$C_{initial}$ = low-level or mid-level calibration gas value measured before test run, ppmv;
C_{final} = low-level or mid-level calibration gas value measured after test run, ppmv;
C_{span} = span value, ppmv.

12.5 Calculate Capture Efficiency. The equation to calculate enclosure capture efficiency is provided below:

$$CE = (SF_{6\text{-}CD} \div SF_{6\text{-}INJ}) \times 100$$

Where:

CE = capture efficiency;
$SF_{6\text{-}CD}$ = mass of SF_6 measured at the inlet to the CD;
$SF_{6\text{-}INJ}$ = mass of SF_6 injected from the tracer source into the enclosure.

Calculate the CE for each of the initial three test runs. Then follow the procedures outlined in section 12.6 to calculate the overall capture efficiency.

12.6 Calculate Overall Capture Efficiency. After calculating the capture efficiency for each of the initial three test runs, follow the procedures in 40 CFR part 63, subpart KK, appendix A, to determine if the results of the testing can be used in determining compliance with the requirements of the rule. There are two methods that can be used: the DQO and LCL methods. The DQO method is described in section 3 of 40 CFR part 63, subpart KK, appendix A, and provides a measure of the precision of the capture efficiency testing conducted. Section 3 of 40 CFR part 63, subpart KK, appendix A, provides an example calculation using results from a facility. If the DQO criteria are met using the first set of three test runs, then the facility can use the average capture efficiency of these test results to determine the capture efficiency of the enclosure. If the DQO criteria are not met, then the facility can conduct another set of three runs and run the DQO analysis again using the results from the six runs OR the facility can elect to use the LCL approach.

The LCL method is described in section 4 of 40 CFR part 63, subpart KK, appendix A, and provides sources that may be performing much better than their regulatory requirement, a screening option by which they can demonstrate compliance. The LCL approach compares the 80 percent lower confidence limit for the mean measured CE value to the applicable regulatory requirement. If the LCL capture efficiency is higher than the applicable limit, then the facility is in initial compliance and would use the LCL capture efficiency as the capture

efficiency to determine compliance. If the LCL capture efficiency is lower than the applicable limit, then the facility must perform additional test runs and re-run the DQO or LCL analysis.

13.0 Method Performance.

13.1 Measurement System Performance Specifications.

13.1.1 Zero Drift. Less than ± 3 percent of the span value.

13.1.2 Calibration Drift. Less than ± 3 percent of the span value.

13.1.3 Calibration Error. Less than ± 5 percent of the calibration gas value.

13.2 Flow Measurement Specifications. The mass flow, volumetric flow, or critical orifice control meter used should have an accuracy of greater than ± 5 percent at the flow rate used.

13.3 Calibration and Tracer Gas Specifications. The manufacturer of the calibration and tracer gases should provide a recommended shelf life for each calibration gas cylinder over which the concentration does not change more than ± 2 percent from the certified value.

14.0 Pollution Prevention [Reserved].

15.0 Waste Management [Reserved].

16.0 References.

1. 40 CFR part 60, appendix A, EPA Method 1 – Sample and velocity traverses for stationary sources.

2. 40 CFR part 60, appendix A, EPA Method 2 – Determination of stack gas velocity and volumetric flow rate.

3. 40 CFR part 60, appendix A, EPA Method 3 – Gas analysis for the determination of dry molecular weight.

4. 40 CFR part 60, appendix A, EPA Method 4 – Determination of moisture content in stack gases.

5. SEMI F15-93 Test Method for Enclosures Using Sulfur Hexafluoride Tracer Gas and Gas Chromotography.

6. Memorandum from John S. Seitz, Director, Office of Air Quality Planning and Standards, to EPA Regional Directors, Revised Capture Efficiency Guidance for Control of Volatile Organic Compound Emissions, February 7, 1995. (That memorandum contains an attached technical document from Candace Sorrell, Emission Monitoring and Analysis Division, “Guidelines for Determining Capture Efficiency,” January 9, 1994).

7. Technical Systems Audit of Testing at Plant “C,” EPA-454/R-00-26, May 2000.

8. Material Safety Data Sheet for SF_6. Air Products and Chemicals, Inc. Website: www3.airproducts.com. October 2001.

17.0 Tables, Diagrams, Flowcharts, and Validation Data.

Table 1 to Appendix A to Subpart DDDD of 40 CFR Part 63. Summary of Critical Physical Measurements for Enclosure Testing

Measurement	Measurement instrumentation	Measurement frequency	Measurement site
Tracer gas injection rate	Mass flow meter, volumetric flow meter or critical orifice	Continuous	Injection manifolds (cylinder gas)
Tracer gas concentration at control device inlet	Infrared Spectrometer or GC/ECD	Continuous (at least one reading per minute) for a minimum of 20 minutes	Inlet duct to the control device (outlet duct of enclosure)
Volumetric air flow rate	EPA Methods 1, 2, 3, 4 (40 CFR part 60, appendix A) • Velocity sensor (Manometer/ Pitot tube) • Thermocouple • Midget Impinger sampler • Orsat or Fyrite	Each test run for velocity (minimum); Daily for moisture and molecular weight	Inlet duct to the control device (outlet duct of enclosure)

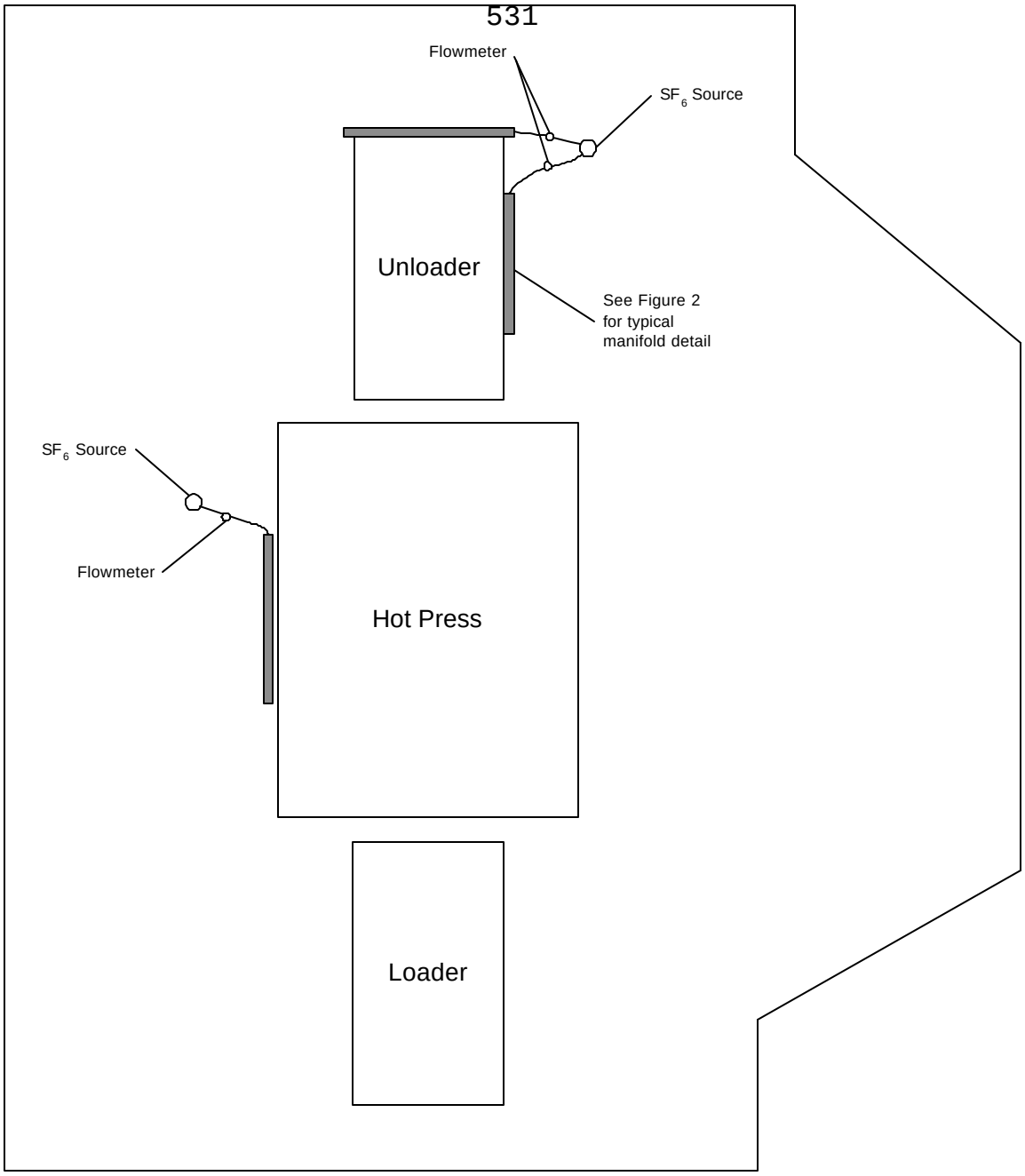
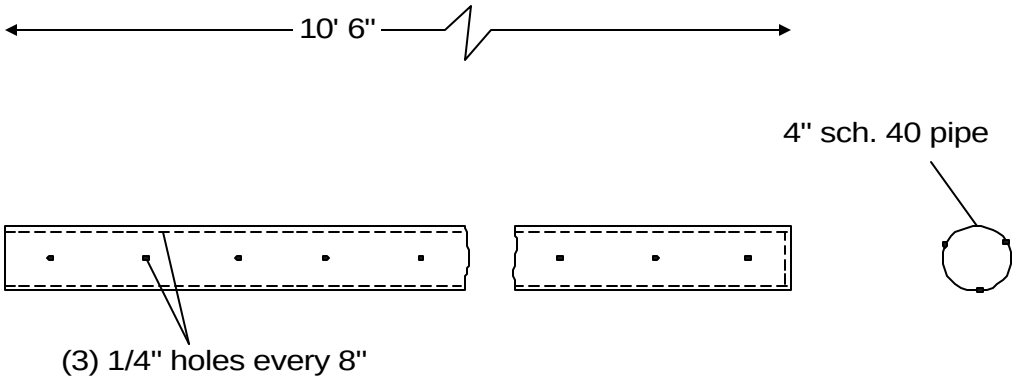


Figure 1. Plan view schematic of hot press and enclosure showing SF_6 manifold locations.



Elevation

Figure 2. Schematic detail for manifold system for SF_6 injection.

Appendix B to Subpart DDDD of Part 63 – Methodology and Criteria for Demonstrating That an Affected Source is Part of the Low-risk Subcategory of Plywood and Composite Wood Products Manufacturing Affected sources

1. Purpose

This appendix provides the methodology and criteria for demonstrating that your affected source is part of the low-risk subcategory of plywood and composite wood products (PCWP) manufacturing facilities. You must demonstrate that your affected source is part of the low-risk subcategory using either a look-up table analysis (based on the look-up tables included in this appendix) or using a site-specific risk assessment performed according to the criteria specified in this appendix. This appendix also specifies how and when you must obtain approval of the low-risk demonstrations for your affected source and how to ensure that your affected source remains in the low-risk subcategory of PCWP facilities.

2. Who is eligible to demonstrate that they are part of the low-risk subcategory of PCWP affected sources?

Each new, reconstructed, or existing affected source at a PCWP manufacturing facility may demonstrate that they are part of the low-risk subcategory of PCWP affected sources. Section 63.2232 of 40 CFR part 63, subpart DDDD, defines the affected source and explains which affected sources are new, existing, or reconstructed.

3. What parts of my affected source have to be included in the low-risk demonstration?

Every process unit that is part of the PCWP affected source (as defined in §63.2292 of 40 CFR part 63, subpart DDDD) and that emits one or more hazardous air pollutant (HAP) listed in Table 1 to this appendix must be included in the low-risk demonstration. You are not required to include process units outside of the affected source in the low-risk demonstration.

4. What are the criteria for determining if my affected source is low risk?

(a) Determine the individual HAP emission rates from each process unit within the affected source using the procedures specified in section 5 of this appendix.

(b) Perform chronic and acute risk assessments using the dose-response values, as specified in paragraphs (b)(1) through (3) of this section.

(1) For a look-up table analysis or site-specific chronic inhalation risk assessment, you should use the cancer and noncancer dose-response values listed on the Environmental Protection Agency (EPA) Air Toxics website (http://www.epa.gov/ttn/atw/toxsource/summary.html) to estimate carcinogenic and noncarcinogenic chronic inhalation risk, respectively.

(2) For site-specific acute inhalation risk assessment, you should use the acute exposure guidance level (AEGL-1) value for acrolein and the acute reference exposure level (REL) value for formaldehyde for estimating acute inhalation risk found at http://www.epa.gov/ttn/atw/toxsource/summary.html.

(3) You may use dose-response values more health-protective than those posted on the EPA Air Toxics website (http://www.epa.gov/ttn/atw/toxsource/summary.html) to facilitate ongoing certification (as required in section 13 of this appendix) that your affected source remains in the low-risk subcategory.

(c) Demonstrate that your affected source is part of the low-risk subcategory by estimating the maximum impacts of your affected source using the methods described in either section 6 of this appendix (look-up table analysis) or section 7 of this appendix (site-specific risk assessment) and comparing the results to the low-risk criteria presented in the applicable section.

5. How do I determine HAP emissions from my affected source?

(a) You must conduct HAP emissions tests according to the requirements in paragraphs (b) through (h) of this section and the methods specified in Table 2 to this appendix for every process unit within the affected source that emits one or more of the HAP listed in Table 1 to this appendix. You must test the process units at your affected source to obtain the emission rates in pounds per hour (lb/hr) for each of the pollutants listed in Table 1 to this appendix.

(b) Periods when emissions tests must be conducted.

(1) You must not conduct emissions tests during periods of startup, shutdown, or malfunction, as

specified in 40 CFR 63.7(e)(1).

(2) You must test under worst-case operating conditions as defined in this appendix. You must describe your worst-case operating conditions in your performance test report for the process and control systems (if applicable) and explain why the conditions are worst-case.

(c) Number of test runs. You must conduct three separate test runs for each test required in this section, as specified in 40 CFR 63.7(e)(3). Each test run must last at least 1 hour except for: testing of a temporary total enclosure (TTE) conducted using Methods 204A through 204F in 40 CFR part 51, appendix M, which require three separate test runs of at least 3 hours each; and testing of an enclosure conducted using the alternative tracer gas method in appendix A to 40 CFR part 63, subpart DDDD, which requires a minimum of three separate runs of at least 20 minutes each.

(d) Sampling locations. Sampling sites must be located at the emission point and prior to any releases to the atmosphere. For example, at the outlet of the control device, including wet control devices, and prior to any releases to the atmosphere.

(e) Collection of monitoring data for HAP control devices. During the emissions test, you must collect operating parameter monitoring system or continuous emissions monitoring system (CEMS) data at least every 15 minutes during the entire emissions test and establish the site-specific operating requirements (including the parameter limits or total hydrocarbon (THC) concentration limit) in Table 2 to 40 CFR part 63, subpart DDDD, using data from the monitoring system and the procedures specified in paragraphs (k) through (o) of §63.2262 of subpart DDDD of 40 CFR part 63.

(f) Nondetect data. You may treat emissions of an individual HAP as zero if all of the test runs result in a nondetect measurement and the conditions in paragraphs (1) and (2) of this section are met for the relevant test method. Otherwise, nondetect data (as defined in §63.2292 of 40 CFR part 63, subpart DDDD) for individual HAP must be treated as one-half of the method detection limit.

(1) The method detection limit is less than or equal to 1 part per million by volume, dry (ppmvd) for pollutant emissions measured using Method 320 in appendix A to 40 CFR part 63; or the NCASI Method IM/CAN/WP-99.02

(incorporated by reference (IBR), see 40 CFR 63.14(f)); or ASTM D6348-03 (IBR, see 40 CFR 63.14(b)).

(2) For pollutants measured using Method 29 in appendix A to 40 CFR part 60, you analyze samples using atomic absorption spectroscopy (AAS).

(g) For purposes of your low-risk demonstration, you must assume that 17 percent of your total chromium measured using EPA Method 29 in appendix A to 40 CFR part 60 is chromium VI. You must assume that 65 percent of your total nickel measured using EPA Method 29 in appendix A to 40 CFR part 60 is nickel subsulfide.

(h) You may use emission rates more health-protective than your measured emission rates (e.g., emissions rates 10 times your measured emission rate) to facilitate ongoing certification (as required in section 13 of this appendix) that your affected source remains in the low-risk subcategory.

6. How do I conduct a look-up table analysis?

Use the look-up tables (Tables 3 and 4 to this appendix) to demonstrate that your affected source is part of the low-risk subcategory, following the procedures in paragraphs (a) through (d) of this section.

(a) Using the emission rate of each HAP required to be included in your low-risk demonstration (measured according to section 5 of this appendix), calculate your total toxicity-weighted carcinogen and noncarcinogen emission rates for each of your process units using Equations 1 and 2 of this appendix, respectively.

$$TWCER = 3(ER_i \times URE_i) \qquad \text{Eqn. 1}$$

$TWCER$ = Toxicity-weighted carcinogenic emission rate for each process unit (lb/hr)/(:g/m^3)
ER_i = Emission rate of pollutant i (lb/hr)
URE_i = Unit risk estimate for pollutant i, 1 per microgram per cubic meter (:g/m^3)$^{-1}$

$$TWNER = 3(ER_i / RfC_i) \qquad \text{Eqn. 2}$$

$TWNER$ = Toxicity-weighted noncarcinogenic emission rate for each process unit (lb/hr)
ER_i = Emission rate of pollutant i (lb/hr)
RfC_i = Reference concentration for pollutant i, micrograms per cubic meter (:g/m^3)

(b) Cancer risk. Calculate the total toxicity-weighted carcinogen emission rate for your affected source by summing the toxicity-weighted carcinogen emission rates for each of your process units. Identify the appropriate maximum allowable toxicity-weighted carcinogen emission rate from Table 3 to this appendix for your affected source using the average stack height of your emission points and the minimum distance between any emission point at the affected source and the property boundary. If one or both of these values do not match the exact values in the lookup table, then use the next lowest table value. (Note: If your average stack height is less than 5 meters (m), your must use the 5 m row.) Your affected source is considered low risk for carcinogenic effects if your toxicity-weighted carcinogen emission rate, determined using the methods specified in this appendix, does not exceed the values specified in Table 3 to this appendix.

(c) Noncancer risk. Calculate the total central nervous system (CNS) and respiratory target organ specific toxicity-weighted noncarcinogen emission rate for your affected source by summing the toxicity-weighted emission rates for each of your process units. Identify the appropriate maximum allowable toxicity-weighted noncarcinogen emission rate from Table 4 to this appendix for your affected source using the average stack height of your emission points and the minimum distance between any emission point at the affected source and the property boundary. If one or both of these values do not match the exact values in the lookup table, then use the next lowest table value. (Note: If your average stack height is less than 5 m, your must use the 5 m row.) Your affected source is considered low risk for noncarcinogenic effects if your toxicity-weighted noncarcinogen emission rate, determined using the methods specified in this appendix, does not exceed the values specified in Table 4 to this appendix.

(d) Low-risk demonstration. The EPA will approve your affected source as eligible for membership in the low-risk subcategory of PCWP affected sources if it determines that: 1) your affected source is low risk for both carcinogenic and noncarcinogenic effects using the look-up table analysis described in this section and 2) you meet the criteria specified in section 11 of this appendix.

7. How do I conduct a site-specific risk assessment?

(a) Perform a site-specific risk assessment following the procedures specified in this section. You may use any scientifically-accepted peer-reviewed assessment methodology for your site-specific risk assessment. An example of one approach to performing a site-specific risk assessment for air toxics that may be appropriate for your affected source can be found in the "Air Toxics Risk Assessment Guidance Reference Library, Volume 2, Site-Specific Risk Assessment Technical Resource Document." You may obtain a copy of the "Air Toxics Risk Assessment Reference Library" through EPA's air toxics website at www.epa.gov/ttn/atw.

(b) At a minimum, your site-specific risk assessment must:

(1) Estimate the long-term inhalation exposures through the estimation of annual or multi-year average ambient concentrations for the chronic portion of the assessment.

(2) Estimate the acute exposures for formaldehyde and acrolein through the estimation of maximum 1-hour average ambient concentrations for the acute portion of the assessment.

(3) Estimate the inhalation exposure of the individual most exposed to the affected source's emissions.

(4) Estimate the individual risks over a 70-year lifetime for the chronic cancer risk assessment.

(5) Use site-specific, quality-assured data wherever possible.

(6) Use health-protective default assumptions wherever site-specific data are not available.

(7) Contain adequate documentation of the data and methods used for the assessment so that it is transparent and can be reproduced by an experienced risk assessor and emission measurement expert.

(c) Your site-specific risk assessment need not:

(1) Assume any attenuation of exposure concentrations due to the penetration of outdoor pollutants into indoor exposure areas.

(2) Assume any reaction or deposition of the emitted pollutants during transport from the emission point to the point of exposure.

(d) Your affected source is considered low risk for carcinogenic chronic inhalation effects if your site-specific risk assessment demonstrates that maximum off-

site individual lifetime cancer risk at a location where people live is less than 1 in 1 million.

(e) Your affected source is considered low risk for noncarcinogenic chronic inhalation effects if your site-specific risk assessment demonstrates that every maximum off-site target-organ specific hazard index (TOSHI), or appropriate set of site-specific hazard indices based on similar or complementary mechanisms of action that are reasonably likely to be additive at low dose or dose-response data for mixtures, at a location where people live is less than or equal to 1.0.

(f) Your affected source is considered low risk for noncarcinogenic acute inhalation effects if your site-specific risk assessment demonstrates that the maximum off-site acute hazard quotients for both acrolein and formaldehyde are less than or equal to 1.0.

(g) The EPA will approve your affected source as eligible for membership in the low-risk subcategory of PCWP affected sources if it determines that: 1) your affected source is low risk for all of the applicable effects listed in paragraphs (d) through (f) of this section and 2) you meet the criteria specified in section 11 of this appendix.

8. What information must I submit for the low-risk demonstration?

(a) Your low-risk demonstration must include at a minimum the information specified in paragraphs (a)(1) through (5) of this section and the information specified in either paragraph (b) or (c) of this section.

(1) Identification of each process unit at the affected source.

(2) Stack parameters for each emission point including, but not limited to, the parameters listed in paragraphs (a)(2)(i) through (iv) below:

(i) Emission release type.

(ii) Stack height, stack area, stack gas temperature, and stack gas exit velocity.

(iii) Plot plan showing all emission points, nearby residences, and fenceline.

(iv) Identification of any HAP control devices used to reduce emissions from each process unit.

(3) Emission test reports for each pollutant and process unit based on the test methods specified in Table 2 to this appendix, including a description of the process parameters identified as being worst case.

(4) Identification of the dose-response values used in your risk analysis (look-up table analysis or site-specific risk assessment), according to section 4(b) of this appendix.

(5) Identification of the controlling process factors (including, but not limited to, production rate, annual emission rate, type of control devices, process parameters documented as worst-case conditions during the emissions testing used for your low-risk demonstration) that will become Federally enforceable permit conditions used to show that your affected source remains in the low-risk subcategory.

(b) If you use the look-up table analysis in section 6 of this appendix to demonstrate that your affected source is low risk, your low-risk demonstration must contain at a minimum the information in paragraphs (a) and (b)(1) through (4) of this section.

(1) Identification of the stack heights for each emission point included in the calculation of average stack height.

(2) Identification of the emission point with the minimum distance to the property boundary.

(3) Calculations used to determine the toxicity-weighted carcinogen and noncarcinogen emission rates according to section 6(a) of this appendix.

(4) Comparison of the values in the look-up tables (Tables 3 and 4 to this appendix) to your toxicity-weighted emission rates for carcinogenic and noncarcinogenic HAP.

(c) If you use a site-specific risk assessment as described in section 7 of this appendix to demonstrate that your affected source is low risk (for carcinogenic and noncarcinogenic chronic inhalation and acute inhalation risks), your low-risk demonstration must contain at a minimum the information in paragraphs (a) and (c)(1) through (8) of this section.

(1) Identification of the risk assessment methodology used.

(2) Documentation of the fate and transport model used.

(3) Documentation of the fate and transport model inputs, including the information described in paragraphs (a)(1) through (4) of this section converted to the dimensions required for the model and all of the following that apply: meteorological data; building, land use, and terrain data; receptor locations and

population data; and other facility-specific parameters input into the model.

(4) Documentation of the fate and transport model outputs.

(5) Documentation of exposure assessment and risk characterization calculations.

(6) Comparison of the maximum off-site individual lifetime cancer risk at a location where people live to 1 in 1 million, as required in section 7(d) of this appendix for carcinogenic chronic inhalation risk.

(7) Comparison of the maximum off-site TOSHI for respiratory effects and CNS effects at a location where people live to the limit of 1.0, as required in section 7(e) of this appendix for noncarcinogenic chronic inhalation risk.

(8) Comparison of the maximum off-site acute inhalation hazard quotient (HQ) for both acrolein and formaldehyde to the limit of 1.0, as required in section 7(f) of this appendix for noncancinogenic acute inhalation effects.

(d) The EPA may request any additional information it determines is necessary or appropriate to evaluate an affected source's low-risk demonstration.

9. Where do I send my low-risk demonstration?

You must submit your low-risk demonstration to the EPA for review and approval. Send your low-risk demonstration either via e-mail to REAG@EPA.GOV or via U.S. mail or other mail delivery service to U.S. EPA, Risk and Exposure Assessment Group, Emission Standards Division (C404-01), Attn: Group Leader, Research Triangle Park, NC 27711, and send a copy to your permitting authority. Your affected source is not part of the low-risk subcategory of PCWP facilities unless and until EPA notifies you that it has determined that you meet the requirements of section 11 of this appendix.

10. When do I submit my low-risk demonstration?

(a) If you have an existing affected source, you must complete and submit for approval your low-risk demonstration no later than [INSERT DATE 24 MONTHS AFTER DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER].

(b) If you have an affected source that is an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP before

[INSERT DATE 60 DAYS AFTER PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER], then you must complete and submit for approval your low-risk demonstration no later than [INSERT DATE 24 MONTHS AFTER DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER]. If you have an affected source that is an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP after [INSERT DATE 60 DAYS AFTER PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER], then you must complete and submit for approval your low-risk demonstration no later than 12 months after you become a major source or after initial startup of your affected source as a major source, whichever is later.

(c) If you have a new or reconstructed affected source you must conduct the emission tests specified in section 5 of this appendix upon initial startup and use the results of these emissions tests to complete and submit your low-risk demonstration within 180 days following your initial startup date. If your new or reconstructed affected source starts up before [INSERT DATE 60 DAYS AFTER PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER], for EPA to find that you are included in the low-risk subcategory, your low-risk demonstration must show that you were eligible to meet the criteria in section 11 of this appendix no later than [INSERT DATE 60 DAYS AFTER PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER]. If your new or reconstructed source starts up after [INSERT DATE 60 DAYS AFTER PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER], for EPA to find that you are included in the low-risk subcategory, your low-risk demonstration must show that you were eligible to meet the criteria in section 11 of this appendix upon initial startup of your affected source. Affected sources that are not part of the low-risk subcategory by [INSERT DATE 38 MONTHS AFTER PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER] must comply with the requirements of 40 CFR part 63, subpart DDDD. Affected sources may not request compliance extensions from the permitting authority if they fail to demonstrate they are part of the low-risk subcategory or to request additional time to install controls to become part of the low-risk subcategory.

11. How does my affected source become part of the low-risk subcategory of PCWP facilities?

To be included in the low-risk subcategory, EPA must

find that you meet the criteria in paragraphs (a) and (b) of this section. Unless and until EPA finds that you meet these criteria, your affected source is subject to the applicable compliance options, operating requirements, and work practice requirements in 40 CFR part 63, subpart DDDD.

(a) Your demonstration of low risk must be approved by EPA.

(b) Following EPA approval, the parameters that defined your affected source as part of the low-risk subcategory (including, but not limited to, production rate, annual emission rate, type of control devices, process parameters reflecting the emissions rates used for your low-risk demonstration) must be incorporated as federally enforceable terms and conditions into your title V permit. You must submit an application for a significant permit modification to reopen your title V permit to incorporate such terms and conditions according to the procedures and schedules of 40 CFR part 71 or the EPA-approved program in effect under 40 CFR part 70, as applicable.

12. What must I do to ensure my affected source remains in the low-risk subcategory of PCWP facilities?

You must meet the requirements in Table 2 to 40 CFR part 63, subpart DDDD, for each HAP control device used at the time when you completed your low-risk demonstration. You must monitor and collect data according to §63.2270 of subpart DDDD to show continuous compliance with your control device operating requirements. You must demonstrate continuous compliance with the control device operating requirements that apply to you by collecting and recording the monitoring system data listed in Table 2 to 40 CFR part 63, subpart DDDD for the process unit according to §§63.2269(a), (b), and (d) of subpart DDDD; and reducing the monitoring system data to the specified averages in units of the applicable requirement according to calculations in §63.2270 of subpart DDDD; and maintaining the average operating parameter at or above the minimum, at or below the maximum, or within the range (whichever applies) established according to section 5(e) of this appendix.

13. What happens if the criteria used in the risk determination change?

(a) You must certify with each annual title V

permit compliance certification that the basis for your affected source's low-risk determination has not changed. You must submit this certification to the permitting authority. You must consider the changes in paragraphs (a)(1) through (4) of this section.

(1) Process changes that increase HAP emissions, including, but not limited to, a production rate increase, an annual emission rate increase, a change in type of control device, changes in process parameters reflecting emissions rates used for your approved low-risk demonstration.

(2) Population shifts, such as if people move to a different location such that their risks from the affected source increase.

(3) Unit risk estimate increases posted on the EPA website (http://www.epa.gov/ttn/atw/toxsource/summary.html) for the pollutants included in Table 1 to this appendix.

(4) Reference concentration changes posted on the EPA website (http://www.epa.gov/ttn/atw/toxsource/summary.html) for the pollutants included in Table 1 to this appendix.

(5) Acute dose-response value for formaldehyde or acrolein changes.

(b) If your affected source commences operating outside of the low-risk subcategory, it is no longer part of the low-risk subcategory. You must be in compliance with 40 CFR part 63, subpart DDDD as specified in paragraphs (b)(1) through (3) of this section. Operating outside of the low-risk subcategory means that one of the changes listed in paragraphs (a)(1) through (4) of this section has occurred and that the change is inconsistent with your affected source's title V permit terms and conditions reflecting EPA's approval of the parameters used in your low risk demonstration.

(1) You must notify the permitting authority as soon as you know, or could have reasonably known, that your affected source is or will be operating outside of the low-risk subcategory.

(2) You must be in compliance with the requirements of 40 CFR part 63, subpart DDDD as specified in paragraph (b)(2)(i) or (ii) of this section, whichever applies.

(i) If you are operating outside of the low-risk subcategory due to a change described in paragraph (a)(1) of this section, then you must comply with 40 CFR part 63, subpart DDDD beginning on the date when your affected

source commences operating outside the low-risk subcategory.

(ii) If you are operating outside of the low-risk subcategory due to a change described in paragraphs (a)(2) through (5) of this section, then you must comply with 40 CFR part 63, subpart DDDD no later than three years from the date your affected source commences operating outside the low-risk subcategory.

(3)(i) You must conduct performance tests no later than 180 calendar days after the applicable date specified in paragraph (b)(2) of this section.

(ii) You must conduct initial compliance demonstrations that do not require performance tests 30 calendar days after the applicable date specified in paragraph (b)(2) of this section.

(iii) For the purposes of affected sources affected by this section, you must refer to the requirements in paragraph (b) of this section instead of the requirements of §63.2233 when complying with 40 CFR part 63, subpart DDDD.

14. What records must I keep?

(a) You must keep records of the information used in developing the low-risk demonstration for your affected source, including all of the information specified in section 8 of this appendix.

(b) You must keep the records required in section 12(a) of this appendix to show continuous compliance with the operating requirements for control devices.

(c) For each THC CEMS, you must keep the records specified in §63.2282(c) of 40 CFR part 63, subpart DDDD.

15. Definitions.

The definitions in §63.2292 of 40 CFR part 63, subpart DDDD, apply to this appendix. Additional definitions applicable for this appendix are as follows:

Direct-fired process unit means a process unit that is heated by the passing of combustion exhaust directly through the process unit such that the process material is contacted by the combustion exhaust.

Emission point means an individual stack or vent from a process unit that emits HAP required for inclusion in the low-risk demonstration specified in this appendix. Process units may have multiple emission points.

Hazard Index (HI) means the sum of more than one hazard quotient for multiple substances and/or multiple exposure pathways.

Hazard Quotient (HQ) means the ratio of the predicted media concentration of a pollutant to the media concentration at which no adverse effects are expected. For inhalation exposures, the HQ is calculated as the air concentration divided by the reference concentration (RfC).

Look-up table analysis means a risk screening analysis based on comparing the toxicity-weighted HAP emission rate from the affected source to the maximum allowable toxicity-weighted HAP emission rates specified in Tables 3 and 4 to this appendix.

Reference Concentration (RfC) means an estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime. It can be derived from various types of human or animal data, with uncertainty factors generally applied to reflect limitations of the data used.

Target organ specific hazard index (TOSHI) means the sum of hazard quotients for individual chemicals that affect the same organ or organ system (e.g., respiratory system, central nervous system).

Unit Risk Estimate (URE) means the upper-bound excess lifetime cancer risk estimated to result from continuous exposure to an agent at a concentration of 1 microgram per cubic meter (:g/m^3) in air.

Worst-case operating conditions means operation of a process unit during emissions testing under the conditions that result in the highest HAP emissions or that result in the emissions stream composition (including HAP and non-HAP) that is most challenging for the control device if a control device is used. For example, worst case conditions could include operation of the process unit at maximum throughput, at its highest temperature, with the wood species mix likely to produce

the most HAP, and/or with the resin formulation containing the greatest HAP.

Table 1 to Appendix B to Subpart DDDD of 40 CFR Part 63. HAP That Must be Included in the Demonstration of Eligibility for the Low-risk PCWP Subcategory.

For your analysis of the following effects...	You must include the following HAP...
(1) Chronic inhalation carcinogenic effects	acetaldehyde, benzene, arsenic, beryllium, cadmium, chromium, lead, nickel, and formaldehyde.
(2) Chronic inhalation noncarcinogenic respiratory effects	acetaldehyde, acrolein, cadmium, formaldehyde, and methylene diphenyl diisocyanate (MDI).
(3) Chronic inhalation noncarcinogenic CNS effects	manganese, lead, and phenol.
(4) Acute inhalation	acrolein and formaldehyde.

Table 2 to Appendix B to Subpart DDDD of 40 CFR part 63. Emission Test Methods.

For...	You must...	Using...
(1) each process unit	select sampling ports' location and the number of traverse points	Method 1 or 1A of 40 CFR part 60, appendix A (as appropriate).
(2) each process unit	determine velocity and volumetric flow rate;	Method 2 in addition to Method 2A, 2C, 2D, 2F, or 2G in appendix A to 40 CFR part 60 (as appropriate).
(3) each process unit	conduct gas molecular weight analysis	Method 3, 3A, or 3B in appendix A to 40 CFR part 60 (as appropriate).
(4) each process unit	measure moisture content of the stack gas	Method 4 in appendix A to 40 CFR part 60.
(5) each process unit	measure emissions of the following HAP: acetaldehyde, acrolein[1], formaldehyde, and phenol	NCASI Method IM/CAN/WP-99.02 (IBR, see 40 CFR 63.14(f)); OR Method 320 in appendix A to 40 CFR part 63; OR ASTM D6348-03 (IBR, see 40 CFR 63.14(b)) provided that percent R as determined in Annex A5 of ASTM D6348-03 is equal or greater than 70 percent and less than or equal to 130 percent.

[1]If EPA approves that your process unit will not emit detectable amounts of benzene or acrolein, that unit may be excluded from the testing requirement in this table.

(6) each process unit	measure emissions of benzene[1]	Method 320 in appendix A to 40 CFR part 63; OR ASTM D6348-03 (IBR, see 40 CFR 63.14(b)) provided that percent R as determined in Annex A5 of ASTM D6348-03 is equal or greater than 70 percent and less than or equal to 130 percent.
(7) each press that processes board containing MDI resin	measure emissions of MDI	Method 320 in appendix A to 40 CFR part 63; OR Conditional Test Method (CTM) 031 which is posted on http://www.epa.gov/ttn/emc/ctm.html
(8) each direct-fired process unit	measure emissions of the following HAP metals: arsenic, beryllium, cadmium, chromium, lead, manganese, and nickel.	Method 29 in appendix A to 40 CFR part 60.

(9) each reconstituted wood product press or reconstituted wood product board cooler with a HAP control device	meet the design specifications included in the definition of wood products enclosure in §63.2292 of subpart DDDD of 40 CFR part 63 OR determine the percent capture efficiency of the enclosure directing emissions to an add-on control device	Methods 204 and 204A through 204F of 40 CFR part 51, appendix M to determine capture efficiency (except for wood products enclosures as defined in §63.2292). Enclosures that meet the definition of wood products enclosure or that meet Method 204 requirements for a PTE are assumed to have a capture efficiency of 100 percent. Enclosures that do not meet either the PTE requirements or design criteria for a wood products enclosure must determine the capture efficiency by constructing a TTE according to the requirements of Method 204 and applying Methods 204A through 204F (as appropriate). As an alternative to Methods 204 and 204A through 204F, you may use the tracer gas method contained in appendix A to subpart DDDD.
(10) each reconstituted wood product press or reconstituted wood product board cooler	determine the percent capture efficiency	a TTE and Methods 204 and 204A through 204F (as appropriate) of 40 CFR part 51, appendix M. As an alternative to installing a TTE and using Methods 204 and 204A through 204F, you may use the tracer gas method contained in appendix A to subpart DDDD.

(11) each process unit with a HAP control device	establish the site-specific operating requirements (including the parameter limits or THC concentration limits) in Table 2 to subpart DDDD	data from the parameter monitoring system or THC CEMS and the applicable performance test method(s).

Table 3 to Appendix B to Subpart DDDD of 40 CFR part 63. Maximum Allowable Toxicity-Weighted Carcinogen Emission Rate (lb/hr)/(:g/m³)

	Distance to Nearest Residence (m)											
Stack height (m)	**0**	**50**	**100**	**150**	**200**	**250**	**500**	**1000**	**1500**	**2000**	**3000**	**5000**
5	8.72E-07	8.72E-07	8.72E-07	9.63E-07	1.25E-06	1.51E-06	2.66E-06	4.25E-06	4.39E-06	4.39E-06	4.39E-06	5.00E-06
10	2.47E-06	2.47E-06	2.47E-06	2.47E-06	2.47E-06	2.61E-06	3.58E-06	5.03E-06	5.89E-06	5.89E-06	5.89E-06	6.16E-06
20	5.81E-06	5.81E-06	5.81E-06	5.81E-06	5.81E-06	5.81E-06	5.90E-06	7.39E-06	8.90E-06	9.97E-06	9.97E-06	1.12E-05
30	7.74E-06	7.74E-06	7.74E-06	7.74E-06	7.74E-06	7.74E-06	8.28E-06	9.49E-06	1.17E-05	1.35E-05	1.55E-05	1.61E-05
40	9.20E-06	9.20E-06	9.20E-06	9.20E-06	9.20E-06	9.20E-06	9.24E-06	1.17E-05	1.34E-05	1.51E-05	1.98E-05	2.22E-05
50	1.02E-05	1.02E-05	1.02E-05	1.02E-05	1.02E-05	1.02E-05	1.02E-05	1.36E-05	1.53E-05	1.66E-05	2.37E-05	2.95E-05
60	1.13E-05	1.13E-05	1.13E-05	1.13E-05	1.13E-05	1.13E-05	1.13E-05	1.53E-05	1.76E-05	1.85E-05	2.51E-05	3.45E-05
70	1.23E-05	1.23E-05	1.23E-05	1.23E-05	1.23E-05	1.23E-05	1.23E-05	1.72E-05	2.04E-05	2.06E-05	2.66E-05	4.07E-05
80	1.34E-05	1.34E-05	1.34E-05	1.34E-05	1.34E-05	1.34E-05	1.34E-05	1.92E-05	2.15E-05	2.31E-05	2.82E-05	4.34E-05
100	1.52E-05	1.52E-05	1.52E-05	1.52E-05	1.52E-05	1.52E-05	1.52E-05	1.97E-05	2.40E-05	2.79E-05	3.17E-05	4.49E-05
200	1.76E-05	1.76E-05	1.76E-05	1.76E-05	1.76E-05	1.76E-05	1.76E-05	2.06E-05	2.94E-05	3.24E-05	4.03E-05	5.04E-05

MIR=1E-06

Emission rates in table expressed as equivalents normalized to theoretical HAP with URE = $1(:g/m^3)^{-1}$

Table 4 to Appendix B to Subpart DDDD of 40 CFR part 63. Maximum Allowable Toxicity-Weighted Noncarcinogen Emission Rate (lb/hr)

	Distance to Nearest Residence (m)											
Stack height (m)	**0**	**50**	**100**	**150**	**200**	**250**	**500**	**1000**	**1500**	**2000**	**3000**	**5000**
5	2.51E-01	2.51E-01	3.16E-01	3.16E-01	3.16E-01	3.16E-01	3.16E-01	3.46E-01	4.66E-01	6.21E-01	9.82E-01	1.80E+00
10	5.62E-01	5.62E-01	5.62E-01	5.62E-01	5.62E-01	5.62E-01	5.62E-01	5.70E-01	6.33E-01	7.71E-01	1.13E+00	1.97E+00
20	1.43E+00	1.43E+00	1.43E+00	1.43E+00	1.43E+00	1.43E+00	1.43E+00	1.43E+00	1.68E+00	1.83E+00	2.26E+00	3.51E+00
30	2.36E+00	2.36E+00	2.36E+00	2.36E+00	2.36E+00	2.36E+00	2.53E+00	3.04E+00	3.04E+00	3.33E+00	4.45E+00	5.81E+00
40	3.11E+00	3.11E+00	3.11E+00	3.11E+00	3.11E+00	3.11E+00	3.42E+00	4.04E+00	5.07E+00	5.51E+00	6.39E+00	9.63E+00
50	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	4.49E+00	4.92E+00	6.95E+00	7.35E+00	8.99E+00	1.25E+01
60	4.83E+00	4.83E+00	4.83E+00	4.83E+00	4.83E+00	4.83E+00	5.56E+00	6.13E+00	7.80E+00	1.01E+01	1.10E+01	1.63E+01
70	5.77E+00	5.77E+00	5.77E+00	5.77E+00	5.77E+00	5.77E+00	6.45E+00	7.71E+00	8.83E+00	1.18E+01	1.36E+01	1.86E+01
80	6.74E+00	6.74E+00	6.74E+00	6.74E+00	6.74E+00	6.74E+00	7.12E+00	9.50E+00	1.01E+01	1.29E+01	1.72E+01	2.13E+01
100	8.87E+00	8.87E+00	8.87E+00	8.87E+00	8.87E+00	8.87E+00	8.88E+00	1.19E+01	1.37E+01	1.55E+01	2.38E+01	2.89E+01
200	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01	2.05E+01	2.93E+01	3.06E+01	4.02E+01	4.93E+01

HI=1. However, EPA may require a more stringent level in specific cases, which will correspondingly render the emission rates in the table more stringent.

Emission rates in table expressed in lbs/hr as equivalents normalized to theoretical HAP with RfC = 1.0 :g/m^3

For the reasons stated in the preamble, title 40, chapter I, part 429 of the Code of Federal Regulations is amended as follows:

PART 429--[AMENDED]

1. The authority citation for part 429 continues to read as follows:

Authority: Secs. 301, 304(b), (c), (e), and (g), 306(b) and (c), 307(a), (b), and (c) and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, as amended by the Clean Water Act of 1977) (the "Act"); 33 U.S.C. 1911, 1314(b), (c), (e), and (g), 1316(b) and (c), 1917(b) and (c), and 1961; 86 Stat. 815, Pub. L. 92-500; 91 Stat. 1567, Pub L. 95-217.

2. Section 429.11 is amended by revising paragraph (c) to read as follows:

§429.11 General definitions.

* * * * *

(c) The term "process wastewater" specifically excludes non-contact cooling water, material storage yard runoff (either raw material or processed wood storage), boiler blowdown, and wastewater from washout of thermal oxidizers or catalytic oxidizers, wastewater from biofilters, or wastewater from wet electrostatic

precipitators used upstream of thermal oxidizers or catalytic oxidizers installed by facilities covered by Subparts B, C, D or M to comply with the national emissions standards for hazardous air pollutants (NESHAP) for plywood and composite wood products (PCWP) facilities (40 CFR part 63, subpart DDDD). For the dry process hardboard, veneer, finishing, particleboard, and sawmills and planing mills subcategories, fire control water is excluded from the definition.

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